CALIFORNIA
OIL WORLD

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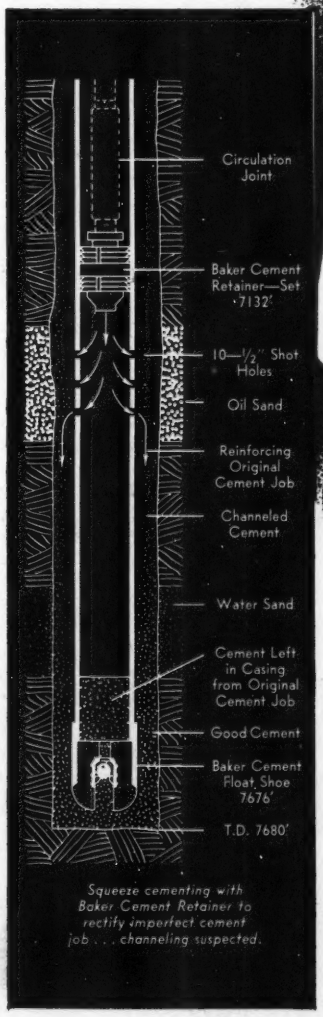
53

A Case Study of an Actual Re-Cementing Problem Solved by Using the Baker Cement Retainer.



Squeeze cementing with Baker Cement Retainer to rectify imperfect cement job . . . channeling suspected.

BAKER CEMENT RETAINER

CASE STUDY NO. 403

PROBLEM: *To Rectify Imperfect Cement Job (Channeling Suspected)*

METHOD: *Set Baker Cement Retainer Above Perforations and Apply Squeeze (A Cement Plug was Already in the Liner Below the Perforations)*

RESULT: *After Cleaning Out, Zone was Reperforated and CLEAN OIL Produced*

• DETAILS •

Field: Montebello, Calif.

Depth of Well: 7680'

Depth Retainer Set: 7132'

Breakdown Pressure: 1800 #

Final Pressure: 3000 #

Number of Sax Mixed: 50

Number of Sax Put Away: 50

How Cement Discharged: Through Ten, ½" Shot Holes

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Complete information concerning the design, construction and operation of the Baker Cement Retainer and its many practical field applications will be found on pages 239-249 of the Baker Section of the Composite Catalog; also in Baker Broadcast No. 17-A, a comprehensive, 40-page treatise which will be sent to any oil man upon request.

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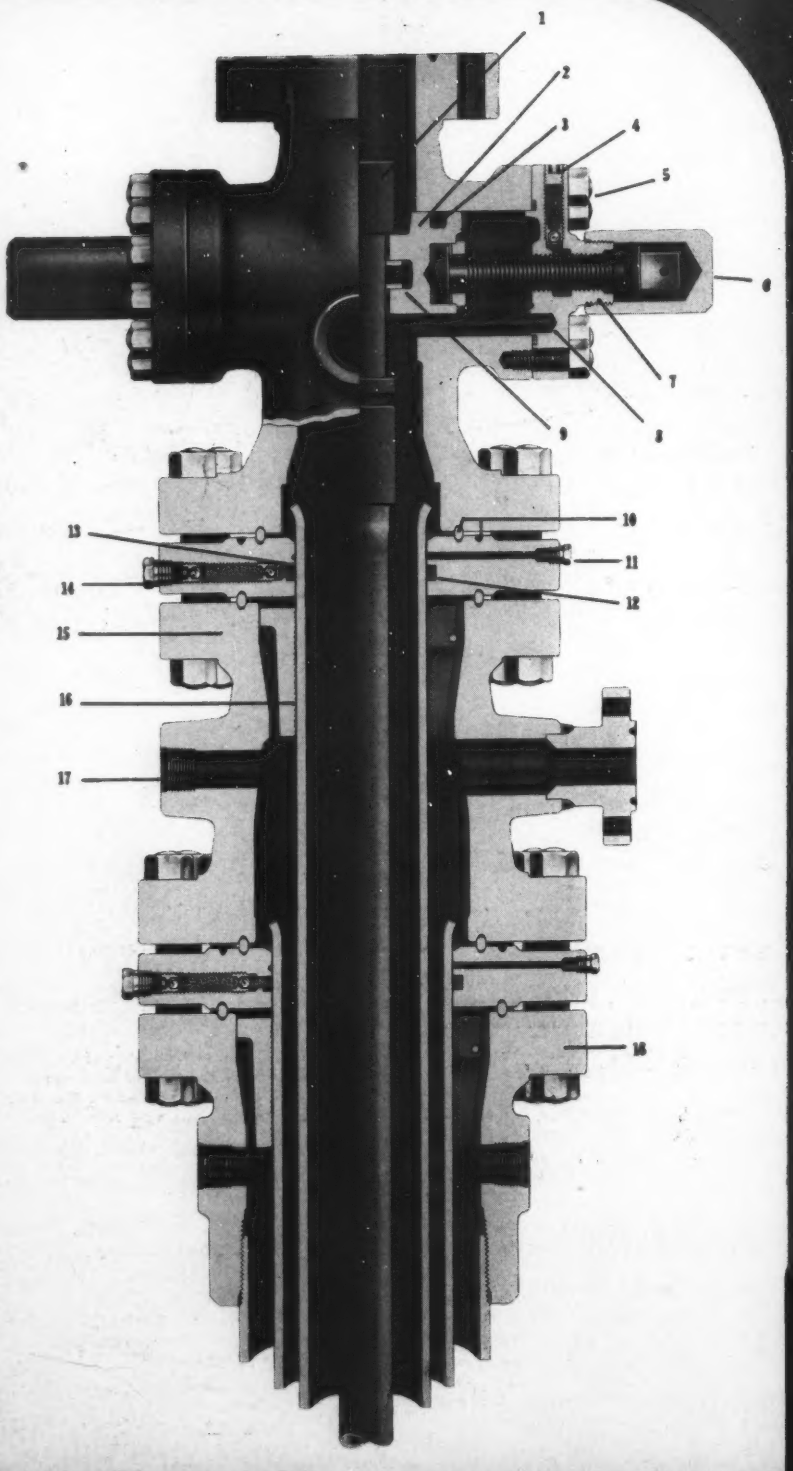

The cross-section drawing presented h with clearly illustrates the numerous ... features provided by Cameron Ram-Ty ... ing Control Heads, Casing Heads and Spo...

The Ram-Type Tubing Control Head, whi... is comparable in price to conventional "... screw" type tubing heads, serves a four-fo... purpose: (1) Provides safe, dependable con... at every stage of completion operations; (2) provides three proven methods of suspendi... and sealing tubing; (3) obviates need of cas... retainer when making squeeze job; (4) is ... extremely practical for re-working subsequent ... original completion. (Used in conjunction wi... a second Cameron Ram-Type Unit, tubi... may be raised, lowered, or pulled from ... without killing.)

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REFERENCE TO FIGURES:

1. Plate for inserts keeper simple for suspe... tubing (when on closed casing) 2. Ram ... 3. Ram ... 4. Replaceable plastic packing seals 5. Bolt ... 6. Ram screw body 7. Ram screw 8. Ram ... 9. Self-locking ram packing elements 10. Ram ... ring grooves (lower), accepts R.T.J. type pre... 11. Ram ... 12. Recessed seal ring 13. ... ground water control 14. Replaceable plastic pac... 15. Casing Spool 16. 3-segment slips 17. ... threaded outlets 18. Casing Head Housing.

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SUCCESS STORY

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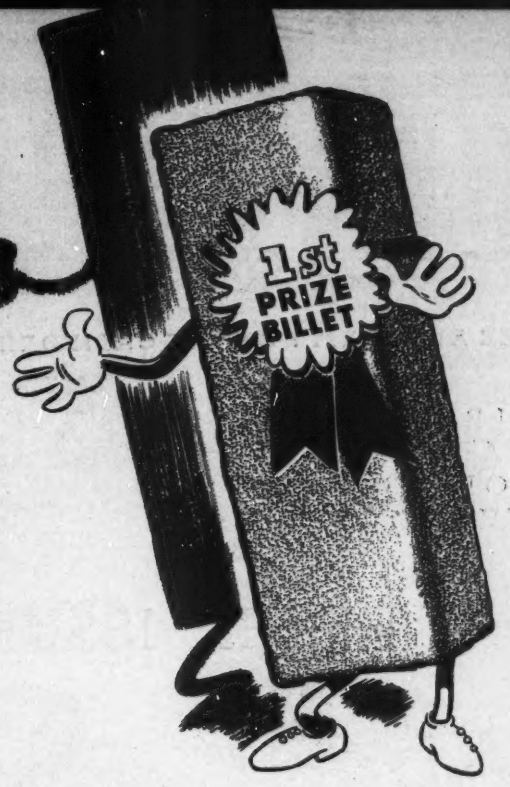
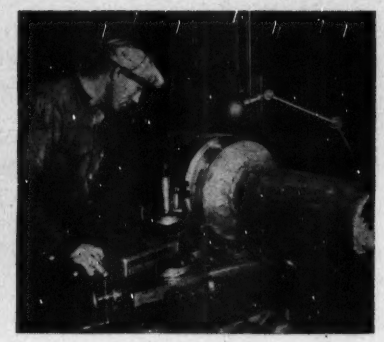
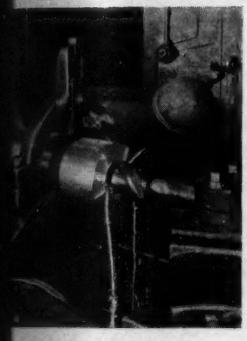


WAS A CHUNK OF ALLOY STEEL—as fine a piece as ever came a steel mill—and headed for BIG things! One day SECURITY spotte . That was MY big opportunity!

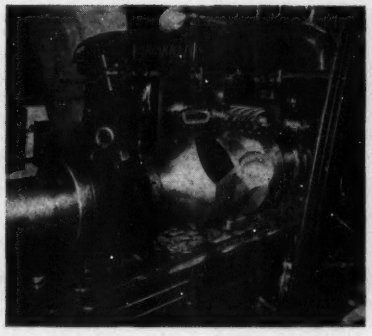
wn went my waistline in the big- t forging hammer I ever saw. A ific beating, but that made me gher than ever!



Off came the rough edges—rough machining, they call it. I was really getting ahead.



Then a hole straight through



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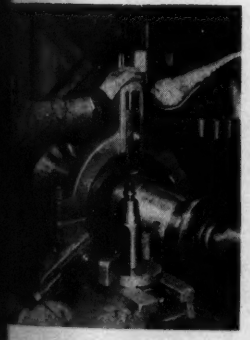
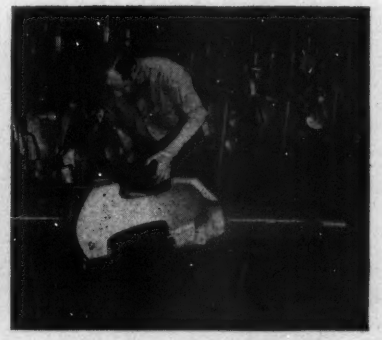


pected gages then checked my ads for API tolerances.

Now—hardened bushings to prevent pin wear and to cut maintenance.



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CALIFORNIA
OIL WORLD
and Petroleum Industry

THE AUTHORITY ON THE CALIFORNIA OIL INDUSTRY

FIRST ISSUE
MARCH 1940
VOL. 33 NO. 5
WHOLE NO. 1556

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California Oil World and Petroleum Industry is published twice a month at 828 Petroleum Bldg., 714 West Olympic Blvd., Los Angeles, California. Entered as Second-class Matter January 1, 1937, at the post office at Los Angeles, California, under the Act of March 3, 1879. Subscription price: $1 per year in U. S. and Possessions, $2 in foreign countries, including Canada. Member of the Audit Bureau of Circulations.

March 13, 1940

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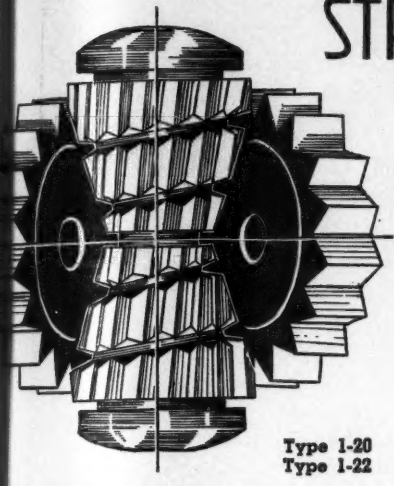
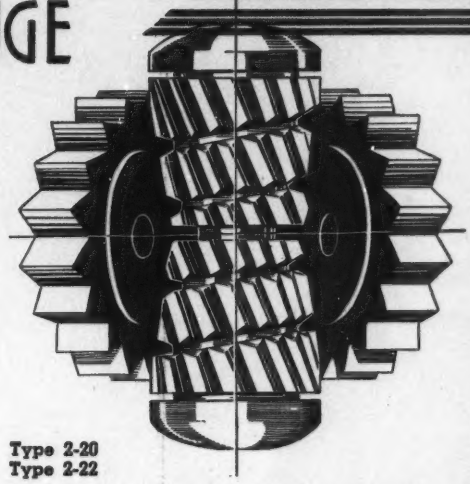


Type 1-20
Type 1-22

ection teeth are parallel with axis of cutter. Gage rs have 20 or 22 teeth.

FOR MEDIUM FORMATIONS

. Softer Shales .... Gypsum .... Salt Anhydrites Bed ... Chalk.

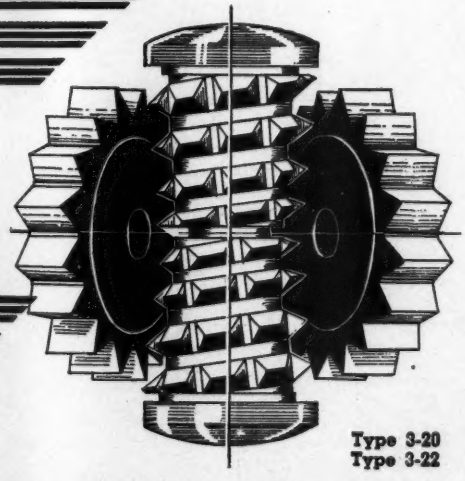


Type 2-20
Type 2-22

Cross section teeth are at an angle of 30° with axis of cutter. Gage side cutters have 20 or 22 teeth.

FOR MEDIUM HARD FORMATIONS

Medium and Hard Shales ... Shells ... Hard Anhydrite ... Hard Sandstones ... Medium Sand Rock ... Lime Rock.

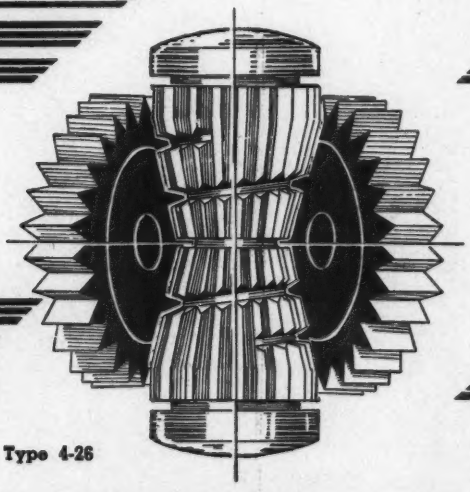


Type 3-20
Type 3-22

ection has spiral sport type teeth. Gage side cut- 20 or 22 teeth.

FOR MEDIUM HARD FORMATIONS

. Hard and Broken Shales ... Soft Limes ... Gyp ydrite ... Medium Sand Rocks.



Type 4-26

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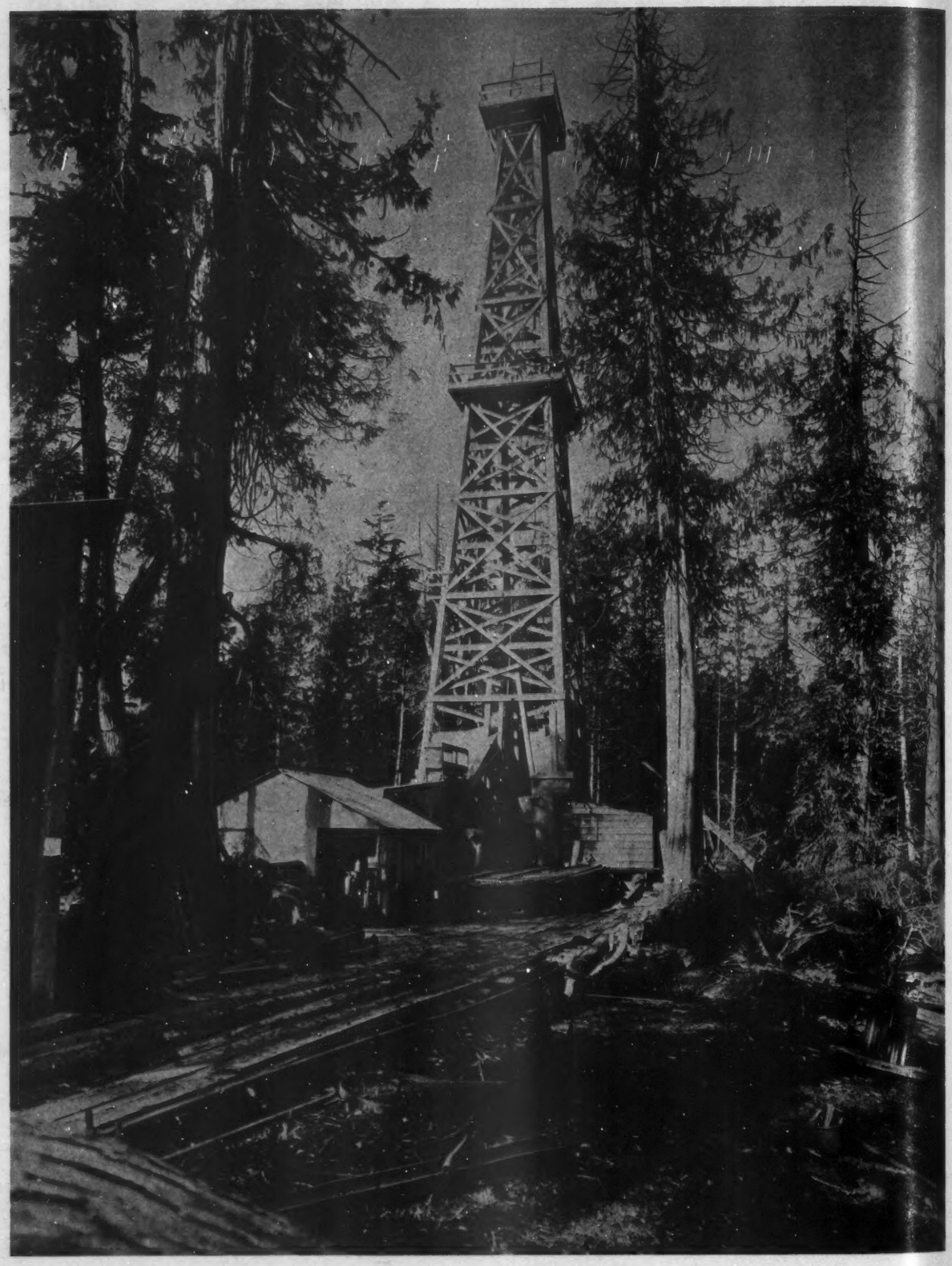

Well of the Hoh River Oil Co. in Washington

Olympic Peninsula Petroleum Possibilities

Third Great Tertiary Ocean Basin on Coast

By
W. C. Lehman*
*Mgr. Mutual Exploration Co., Kalaloch, Wash.

The past ten years has witnessed a definite evolution in the search for new oil producing areas on the Pacific Coast. The two great sedimentary basins, that of Los Angeles and the other that includes the south end of the San Joaquin Valley, and its coastal extensions, have been so thoroughly worked over there is little prospect of the discovery of many new fields through the ordinary field methods of surface geology.

The improvement of geophysical technique, used in conjunction with the geological knowledge available from surface and sub-surface work, has resulted in the development of the deep flush production of the San Joaquin Valley. From the standpoint of insurance for the future and limited present-day profit these new fields are highly satisfactory to the major companies and some of the largest independents. However, even for the majors, production at depths in excess of 10,000 feet is expensive to get and involves difficult and costly production problems for the future. For the average smaller company and independent operator these fields are out of the picture altogether.

These facts have resulted in a renewed interest in the possibility of developing comparatively shallow production in the third great Tertiary marine basin along the Coast—the West side of the Olympic Peninsula, in the State of Washington. Of the three great basins, considering areal extent and thickness of deposition, the Olympic basin is the largest.

AUTHOR'S NOTE

The creation of the new Olympic National Park by the 1938 Congress, and the subsequent developments, has had the effect of bringing again to public notice the oil possibilities of the Olympic Peninsula. Under the terms of the park bill President Roosevelt was granted the authority to enlarge its statutory boundaries, by proclamation, to the extent of an additional 157,000 acres. Part of this discretionary power he has already exercised. Appraisers from the Interior Department are now engaged in valuing the private lands that will be included in a proposed two mile wide corridor from the park proper down the Queets River from the mountains to the ocean and a mile wide strip along the ocean front from the mouth of the Queets River to the mouth of the Ozette River. This will include within the park 50 miles of ocean beaches.

Within the belt along the ocean several wildcat wells have found oil in less than commercial quantities but its occurrence at shallow depths has given much of this land a potential oil value. The appraisal for government purchase will not be easy. The situation is further complicated by the fact that much of it is under lease.

The known intentions of the Administration to purchase or condemn for park purposes some of the prospective wildcat area of the peninsula has had the effect of shutting down the operations of two companies drilling near the Coast. Now, however, leasing has recommenced and several operations are planned for the Spring. The well of the Wishka Oil Co. which has been standing at 2300 feet is to be drilled deeper with new rotary equipment that is now being installed. This well is located on the Wynoochee River. The plans of the Sun Oil Co. for further testing of their extensive leased block have not been made public.

Coast North of mouth of Hoh River.

Typical fore and aft road through timber to well locations.

Its lack of substantial development has resulted from a variety of causes. It occupies an unfortunate middle distance. If it were in Northern California a dozen wildcat wells would be testing it a la Dad Joiner. If in Colombia, or Saudi Arabia, the very fact of its numerous oil seepages would have brought several millions of dollars for the concession, which, in turn, would have justified a thorough geological study by some major interest. The geology of the Olympic Peninsula is complicated, not simple. Except for having possibly oil producing beds of an equivalent age of those of the San Joaquin Valley, its problems are not those of California. With the necessity of a constructive inquiry apparent, the major operators of the Coast have contented themselves with structural reconnaissance. This has but enriched their geological files with a multitude of dips and strikes with no key to their relative importance.

2000 Square Miles Area

Reduced to its essential history and geological setting, the Olympic basin comprises an area of about 2,000 square miles, being roughly 65 miles long with an average width of 30 miles. The predominant series of beds is the Hoh formation, that has a thickness of in excess of 30,000 feet, principally of marine origin but containing interbedded shales and sandstones not marine. Back in 1906 Dr. Ralph Arnold thought these beds were Cretaceous; later, Dr. Charles E. Weaver objected and suggested Jurassic; during 1926 the first fossil localities were discovered by a party, of which the writer was a member, and Dr. R. H. Palmer[1] classified the collections as Lower Miocene, correlating the beds in which they were found with the Kern

The way drilling equipment has reached some locations.

Geological party in the Olympic Mountains.

River Temblor. However, in some circles the impression persists that these fossils may have been from remnants of Tertiary deposition laid down on the older rocks.

There is a contact, though obscured, with the Upper Eocene, along the Strait of Juan de Fuca, on the North. To the South the Hoh formation disappears under a more recent Tertiary series of beds called the Montesano, that is either Lower Pliocene or Upper Miocene, just south of the Raft River. A considerable thickness of this Montesano rests unconformably upon the Hoh formation, in the form of large remnants probably left from Pliocene erosion, in several widely separated districts throughout the basin.

The western peak of the Olympic Mountains are composed of highly indurated sandstones of the Hoh series. Whatever the core of the western Olympics may be there is no known outcrop of igneous or rocks that have been metamorphosed except in the limited sense of the word that induration may imply.

The boulder content of all of the rivers that have their headwaters in the mountains and empty into the Pacific is composed of sedimentary material that is definitely of either Hoh or Montesano age, in addition to the erratics from the Pleistocene.

The conglomerates which frequently appear in the Hoh series have not, so far as the writer knows, been satisfactorily explained. Many of the pebbles and boulders of which they are composed are certainly pre-Oligocene. This material may, of course, be in its third cycle from the land-mass from which the Hoh sediments are derived.

Oil seepages are as abundant, perhaps, as those of Ventura County, since many are undoubtedly hidden by the vegetation. Many are known and are scattered throughout an area of a thousand square miles. The oil is 40° Baumé gravity and paraffin base.

During the past twenty-five years about twenty wells have been drilled,

Well of the Wishka Oil Co. on Wynoochee River.

Camp of the Mutual Exploration Co. on Hoh River.

three by major companies. The remainder were locally financed and usually abandoned, for financial reasons, at shallow depths. None of the locally owned wells attained a depth of 3,000 feet. However, four of them found considerable oil but in less than commercial quantities. One well bailed 40 barrels the first day but less than 5 barrels at any time thereafter. Since the oil was encountered in a severely faulted fold with total lack of gas or water pressure, the reason for the failure of continued production was obvious. This well found oil at 685 feet. Nearby, another well drilled into the same fault pumped 5 barrels an hour for seven hours before exhausting the local accumulation. Both these wells were located about two miles north of the mouth of the Hoh River. About twenty years ago the same oil was found at a depth of 2,000 feet, near the town of Forks, approximately 15 miles northeast from the mouth of the Hoh River. This well filled up several hundred feet with oil and a considerable quantity was bailed out. The local owners thought the production could be increased by shooting the well with dynamite. This effectively shut off the oil.

The comment of the United States Geological Survey[3] in 1934 regarding the oil prospects of the peninsula approached the ironical: "The Olympic Peninsula is the most promising part of Washington for oil prospecting. *** The early Tertiary rocks in the western part of the peninsula are known to have seeps of oil and to include beds that are regarded as probable sources of oil. ***A few unsuccessful wells have been drilled in this region but they were not favorably located with regard to structural features. It is expected that further prospecting will be carried on here."

The "structural features", so casually mentioned, seem as difficult to properly interpret by Government geologists as by the rest of us. Anyhow, the well previously mentioned, that bailed 40 barrels upon discovery, was located on an anticline as mapped by the U. S. G. S.[4] It certainly was not well located in reference to structural features.

Geological work on the rivers is by Indian canoe.

It is the normal experience of the average geologist, when examining a new wildcat area, to find a substantial fund of geological facts already established by others and in print, to which he may add some of his own in relation to a localized district and proceed to his conclusions. Assigned to the Olympic Peninsula, he must view the little recorded work with some skepticism and write his own book, beginning at the first chapter.

In making his field examination he is confronted by physical handicaps of almost unequalled proportions. (There's some alleviation over the conditions of a few years ago, so far as transportation is concerned. During the past five years remarkably good roads permit the reaching of many areas that used to be accessible only by trail.) The Olympic Peninsula has not been called the "last wilderness" without cause. Having the greatest annual rainfall of any part of continental United States, the forest growth of underbrush, in some areas, is almost impenetrable. Over the country rock is a mantle of glacial drift from 50 to 300 feet thick, limiting exposures to the coast-line and to places along the stream beds where the current has cut through the overlying till and exposed

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the formations beneath it. A few road and railroad cuts expose the older rocks.

The Tertiary beds underlying the Pleistocene have been folded and faulted into attitudes of high dip. These range from 30 degrees to vertical beds. An average for all exposures would probably lie between 40 and 45 degrees. Throughout the basin, except for one narrow belt, the bedding planes characteristically strike alternately northwest and northeast. This suggests the original folding of the beds and their later compression by a structural force operating almost at a right angle from the first. In this connection it may be interesting to note the application of the principles of the Daly hypothesis of delayed action of structural and mountain making forces following continental submergence. Most of the peninsula underwent westward submergence during Oliogocene time, while the Strait of Juan de Fuca represents a northeastern submergence later. The arrangement of the Olympic Mountains suggests the operation of the same conflicting forces, with the added component of an older land-mass as a resistant factor to the East. This produced block faulting and the differential uplift of the peaks.

That the structural forces of the Olympic Peninsula are still active is sufficiently attested by several facts. Some of the Pleistocene beds have inclinations up to 30 degrees. In the sea cliffs occasional rock oyster holes may be seen several feet above high tide level. Some portions of the coast are rising, some falling, as judged by the relation of the base of the glacial drift to the tide line. This base is sometimes below low tide and elsewhere as much as 50 feet above. Block faulting is also suggested by the dissimilar levels of the flood plains from one side of some of the rivers to the opposite shore.

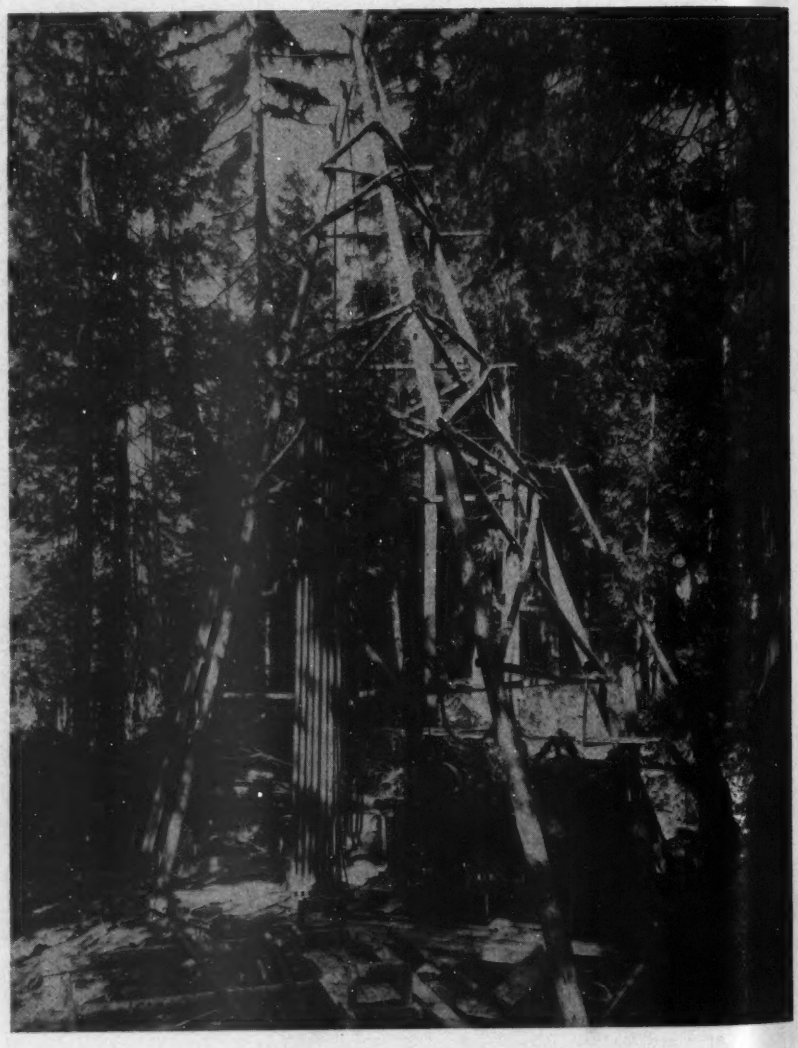
To the complexity of their essentially structural characteristics, the beds of the Hoh series have frequently the erratic features that accompany rapid deposition. Many of the sandstones are cross-bedded, most of them massive or with undependable bedding planes. Interbedded with the marine deposition are lenses, and, infrequently, continuous beds of fluvial, swamp and lacustrine origin. Occasional indistinct imprints of deciduous leaves may be found in these sandstones. Thin coal partings are occasionally to be seen.

After witnessing and participating in much field work that led principally to inconclusive generalizations, the writer undertook, several years ago, the somewhat ambitious project of making a study of the essential constitution of the sediments, for such aid as this might render to a greater understanding of the stratigraphy and structure of the peninsula.

One of the objectives has been the separation of the sedimentary series into as many distinctive stratigraphic zones as possible and their correlation through either foraminiferal or heavy mineral evidence, or both. When it it has been possible to make a correlation of equivalent zones by both methods, the contemporaneous dissimilarity of the deposition has permitted a greater understanding of how the sediments were laid down.

Briefly, the collection of samples and their examination has proceeded as follows:

During the Summer seasons of 1937 and 1938, an average and typical sample of every available exposure has been taken along 50 miles of coast-line, from Queets to Lake Ozette; along and in the beds of the Queets, Clearwater, Hoh, Bogachiel, Quillayute, Soleduck, Calawah and Hoko Rivers; from road cuts along the Olympic Highway and other roads; from many creeks wherever the stream had cut through the till; and from isolated outcrops. In each case the sample was accompanied by all available data of the rock in place, such as location, elevation, dip and strike, overlying and underlying beds (where possible) type of bedding, width of outcrop, etc. This material, consisting of about 500 samples, constitutes a representative sampling of about 1,500 square miles. At the field laboratory, a portion of each sandstone sample was crushed, passed through a 20 mesh sieve, boiled in a 20 per cent solution of HCl, thoroughly washed, numbered and filed in wide mouthed bottles. A record was kept of the loss in the acid cleaning and certain specimens were treated with sodium hydroxide instead of acid for the



Core drilling by the Mutual Exploration Co.

examination of material that was acid soluble.

To this collection was added, and given the same treatment, a sampling of the sandstones found in about 3,000 feet of core from wells drilled along the Hoh river, under the writer's direction, during the past five years.

All of the cleaned sandstone samples were examined under a low power microscope for what information might be obtained concerning the physical constitution of the sand grains, some being themselves conglomeratic, their shape, inclusions, type of quartz, etc.

From the 500 samples, so far 115 have been submitted to qualitative and quantitative heavy mineral analysis, through separation by heavy liquids, the identification of the minerals by the usual petrographic methods, and the calculation of individual percentages. From the most interesting sandstones 40 thin sections have been made and examined.

The heavy mineral suite of the Hoh sandstones include chlorite, hornblende, muscovite, biotite, sericite, garnet, vesuviante, apatite, staurolite, titanite, zircon, cassiterite, augite, olivine, corundum, rutile, collophanite, clinochlore, hypersthene, tourmaline, pyrolusite (?) and several unidentifiable amphiboles.

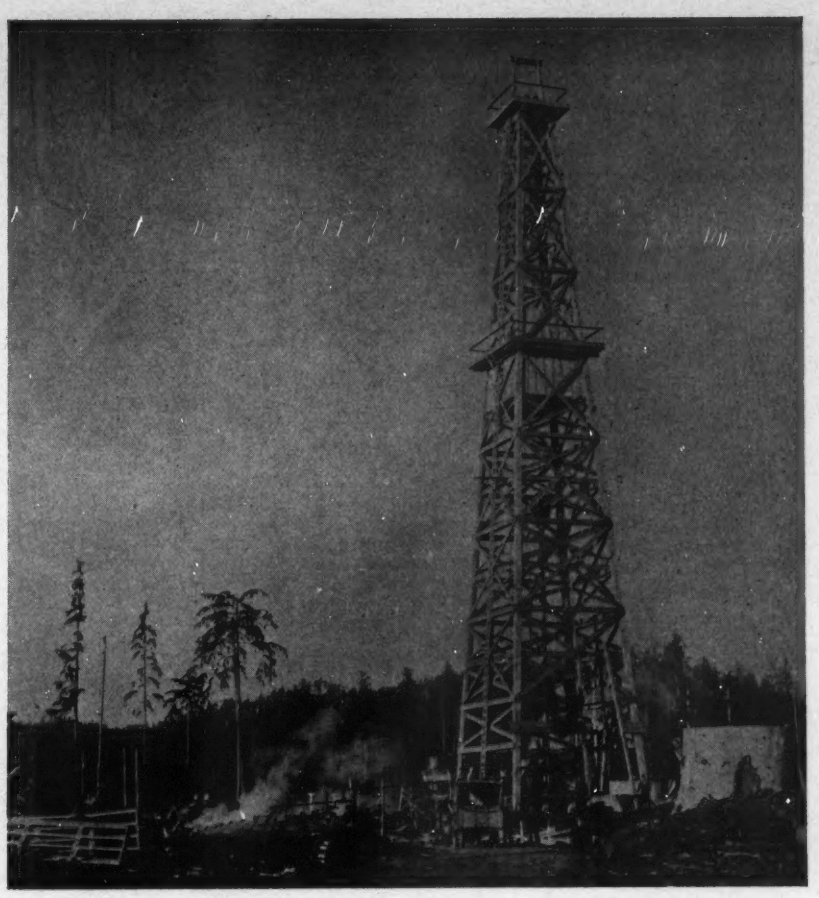
Many of the shale samples were examined for foraminifera and some good assemblages with index fossils reported on. Samples of the shales of Teawhit Head were particularly of value. Through the courtesy of two of the major companies other foram examinations became available. An acetone test was made of the shales for minute oil content. A chemical analysis of the coal partings conveyed some information.

The correlation results so far obtained, must, necessarily be of a private nature, and, in any event, the work has not progressed far enough for more than tentative conclusions. However, it may be stated that it is quite possible to construct definite stratigraphic sections, largely through the garnet ratio with certain of the other minerals.

Aside from matters of correlation, this examination has already made evident certain pertinent facts regarding the sediments of the Olympic Basin, their origin and continuity, and their relation to possible oil production.

Conclusion. All sedimentary material within the basin is of Tertiary age.

Evidence: Several collections of megascopic fossils have been made in soft sandstones that are definitely a part of the Hoh formation section. No microscopic fossils have been found that are known to be older than Oligocene. The heavy mineral suite of two type sections shows no stratigraphic break.



Well of Sun Oil Co., near Forks, Wash.

Conclusion: The sediments are in their first cycle of deposition.

Evidence: The variety of heavy minerals contained in the sandstones. The presence of unaltered olivine, that is highly unstable under transport and would not survive reworking, and apatite, that is chemically unstable.

Conclusion: The sandstones were derived from granitic rock.

Evidence: The named heavy minerals, in the proportions in which they are found, could have no other parent landmass, considering the prevalence of primary quartz in the light crop.

Conclusion: The sediments have been derived from a common or similar source.

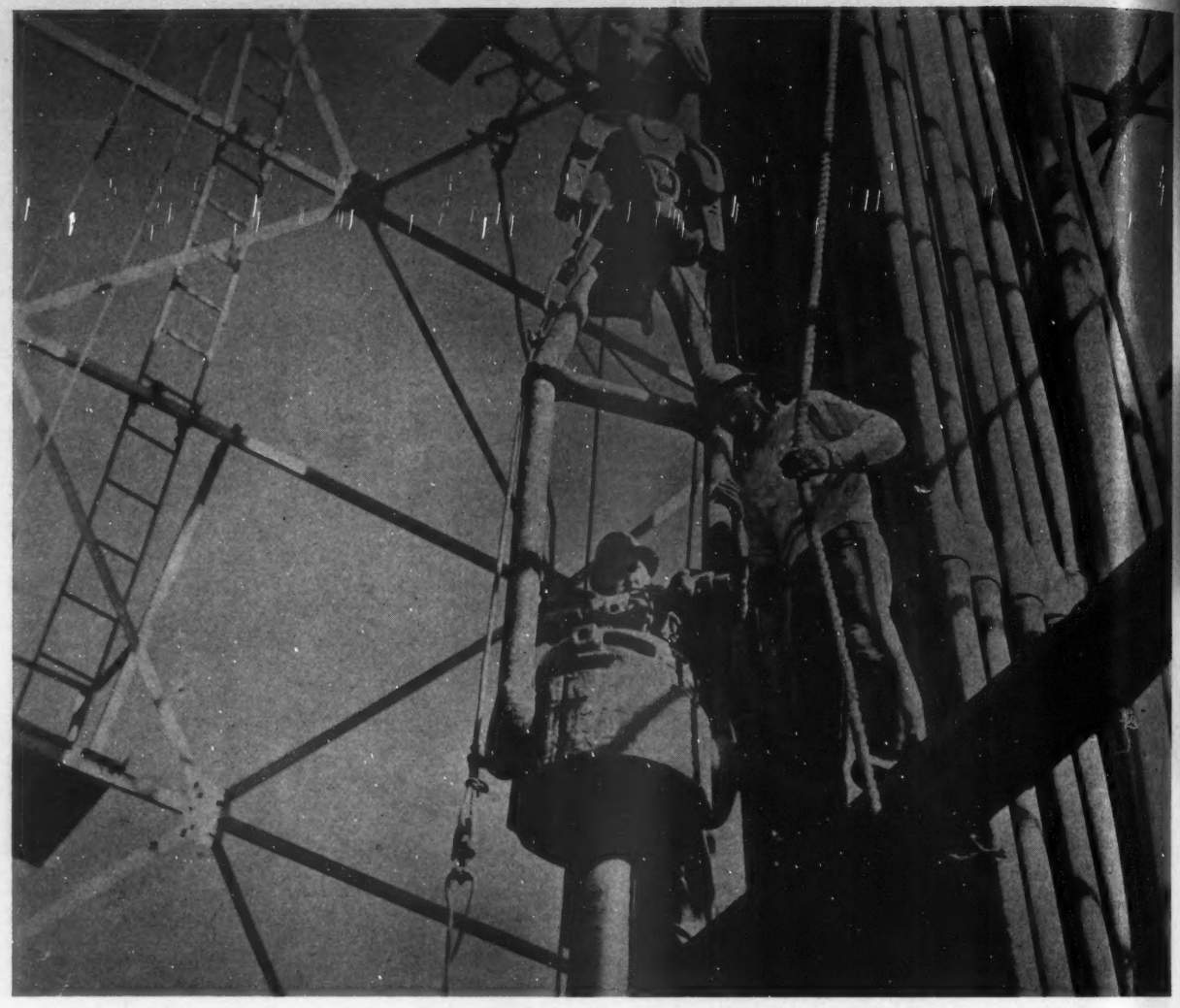
Evidence: Chloritization is one of the characteristics of the sandstones. Each of the 115 samples, and these were representative of the basin as a whole, showed a constancy of heavy chlorite percentage, no sample having less than 20 percent, ranging upward to 82 per cent. This secondary product required a high and constant deposition of the ferromagnesian minerals.

Conclusion: The Olympic basin contains organic shales that are source of free oil.

Evidence: An acetone test of numerous samples of the brown shale of one part of the section invariably gave an oil reaction sometimes strong enough to form a ring around the test tube.

Hypothesis. It seems probable to the writer that, either at the end of Eocene or beginning of Oligocene, the western part of the peninsula, then extending several hundred miles westward from the present shore-line, was a region of high relief, probably mountainous. That submergence during Oliocene time resulted in the formation of an immense embayment, the mountain tops existing as large islands. That during this time the area was subjected to differential uplift and submergence.

Evidence: The great thickness of the Hoh formation laid down in a relatively short geological period, the interbedded lenses of terrestial deposition, the conglomerates that do not seem to be basal in any sense of the word but occur erratically through the section; these things are not quite reconcilable with a receding shore-line. The conception of an Oliogocene-Lower Miocene sea, throughout which island denudation would proceed simultaneously in many



Another cementing job is finished and the boys on St. Anthony's Rosecrans test are taking off the cementing head.

places accompanied by the torrential erosion of land surfaces, the creation of fresh water swamps and of areas of still dead water where the black shales of the region could form through incomplete oxidation; these suggest an island provenance for these sediments.

The writer wishes to acknowledge the efficient assistance and all around good work of Mr. Ben Lupton who gathered most of the samples and much of the field data; of Mr. Kenneth G. Skinner, of the United States Bureau of Mines, who did the petrographic work; and of Prof. F. A. McMillin, who made the thin sections and the gas, coal and shale chemical analysis. For the conclusions, the writer takes sole responsibility.

1—*A. A. P. G. Bull.* 11. *No.* 12, *December*, 1927.

2—*Petroleum Investigation—Hearings on H. Res.* 441, *Part* 2.

3—*U. S. G. S. Bulletin* 581.

Nomads Cooperating With Tulsa Oil Show

Over eighty members and guests were present at the regular monthly meeting of the Los Angeles Chapter of the Nomads held in Los Angeles, Mar. 6. After the business meeting and following the Nomads dinner, an open discussion was held regarding the cooperation between the Nomads and the International Petroleum Exposition in taking care of foreign visitors attending the Oil Show in Tulsa in May. The three active chapters of Nomads—Los Angeles, Houston and Tulsa—will all participate in this activity and will extend every effort to facilitate the work of representatives from foreign countries in seeing all equipment on display at the show. All other activities of the foreign visitors during the exposition will also be under the supervision of the Nomads and preliminary work of getting a large number of such visitors is now being done.

After this business was completed a lecture on South America illustrated by colored slides was given by H. W. Peterson of Pan American Airways. Among the foreign visitors in attendance at the meeting were: A. W. McPherson, A. E. Carpenter and W. B. Goodwin of California Arabian Standard Oil Co.; G. W. van Bilderbeck of the B.P.M. from The Hague; John M. Russell of Sarawak Oilfields, Ltd., Sarawak; K. B. Jauman of Attock Oil Co., Ltd., from Khaur, Punjab, India; and L. C. Stevens of Caribbean Petroleum Co., Maracaibo.

1940—March

19—American Petroleum Institute, Pacific Coast District, Los Angeles, Cal.

28-29—Society of Automotive Engineers, Natl. Transportation & Maintenance Meeting, Mellon Institute Auditorium, Pittsburgh, Pa.

Complete protection is provided for your casing when a properly inhibited acid is used.

CONTROL YOUR ACIDIZING

ACIDIZING is a highly specialized service. It is successful only in the hands of experienced technicians employing perfected methods, engineered equipment and INHIBITED ACID.

Properly controlled carbonate content drilling fluid, where applicable, is also of highest importance, since it permits easy demudding by INHIBITED ACID.

Services embodying these essentials are available to California operators at surprisingly low prices through two licensees—Dowell Incorporated and Pacific Cementing Co., both of whom have a long list of successful jobs to their credit.

Write, wire or telephone for an Acidizing Engineer to call on you to discuss your problems. There is no charge for this service.

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PACIFIC CEMENTING CO.

Box 2017, Terminal Annex, Los Angeles, Calif.

Day or Night Telephone: KImball 9137

Box 641, Bakersfield; Telephone Bakersfield 246

2801 N. Ventura Ave., Ventura; Telephone Ventura 6196

The recent examples listed below illustrate various applications of INHIBITED ACID to California wells.

STUCK PIPE AND FISHING JOBS RELEASED BY INHIBITED ACID

Well No.	Type of Job	Depth	Gallons Used	Time to Loosen	Carbonate Content
A	Stuck wash-over pipe	5,992	1,000	3 Min.	6%
B	Stuck whip-stock	6,067	625	17 Min.	8%
C	Stuck drill collar	7,076	1,350	20 Min.	4%
D	Liner stuck	4,940	2,500	5 Min.	15%
E	Balled-up bit	6,016	500	1 Min.	8%

NEW WELL COMPLETIONS USING INHIBITED ACID

Well No.	Depth	Type of Treatment
A	9,243	Removal of carbonated mud from producing formation.
B	7,712	Acid weighted and spotted through bit, pipe then gun perforated with inhibited acid in place.
C	3,553	Removal of carbonated mud in prepacked gravel liner installation.
D	7,605	Acidized through bit in open hole.
E	10,393	Removal of carbonated mud from producing formation.

Views and News Around the Derricks

Rosecrans and Wilmington

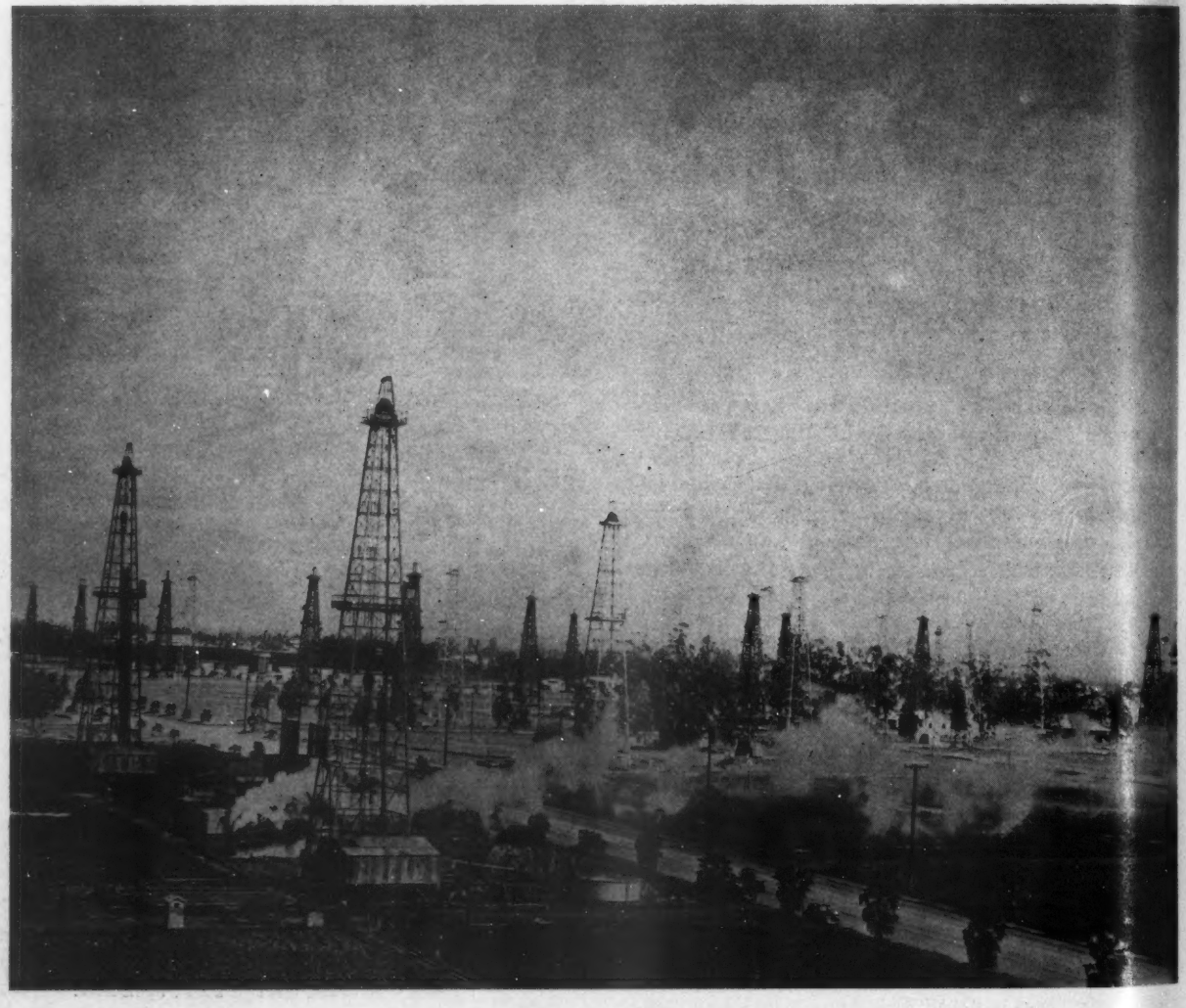
Little did Civil War General Wm. S. Rosecrans realize the tremendous wealth of the Rancho he purchased in the year 1870. Located between the awakening city of Los Angeles and its port of San Pedro, it is probable that this property was chosen by the doughty old warrior because of its availability to markets and sources of supply as at the time many other localities offered equally good grain and range land at less cost per acre.

Fifty-two years later, in July 1922, Potter Oil Co. spudded in Howard Park No. 1 in the low, rolling hills now known as the Athens area, but though good showings were logged, four months later drilling was suspended at 4520 ft. Several attempts to refinance the project failed and it was offered to the major oil companies on most reasonable terms, but found no takers.

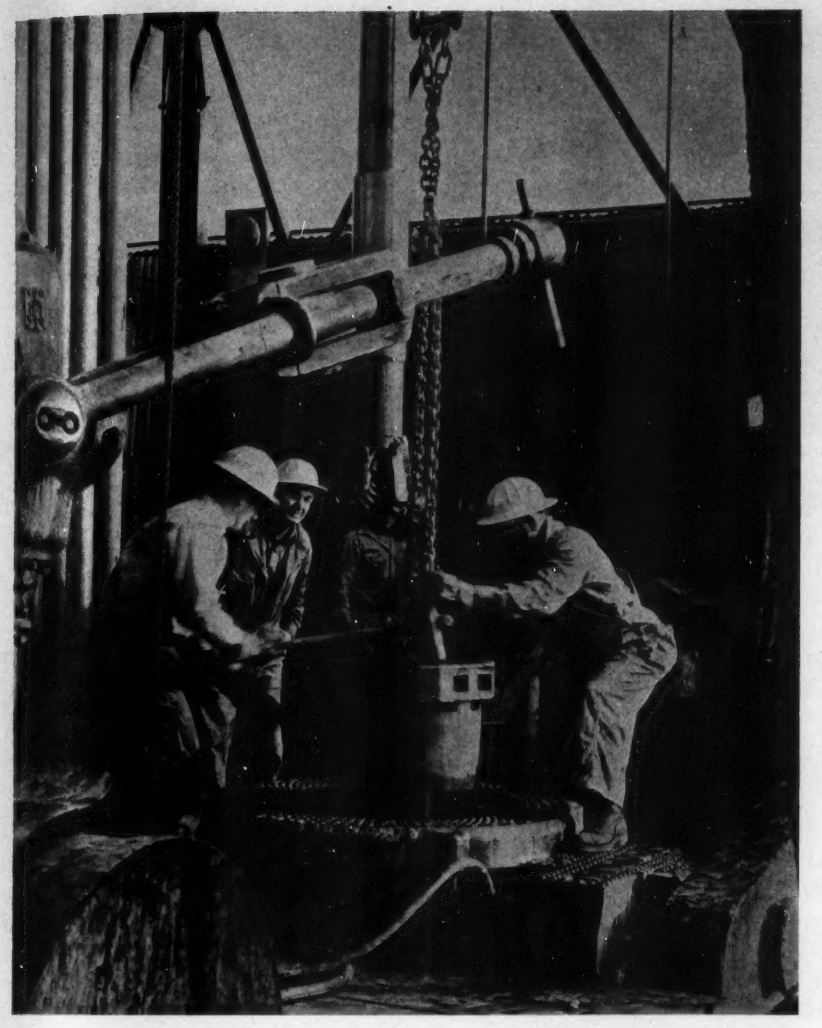
The discovery of oil at Dominguez Hill, half way between the Potter well and Signal Hill, in 1923 by Union Oil Co. led that company to realize the possibilities of finding a new field along the Inglewood fault and in the following February the wildcat became a Union project. Deepened to 4978 ft., casing was cemented over oil sand topped at 4938 ft. and the well was brought in flowing 800 bbls. of 37 gravity clean oil on May 6, 1924.

A pioneer then as now, Superior Oil Co. stepped out to the south with Maxwell Community No. 1 which was completed in August of 1924 flowing 1100 bbls. of 43 gravity oil from 4425 ft. This area later became known as a separate dome within the Rosecrans-Athens field.

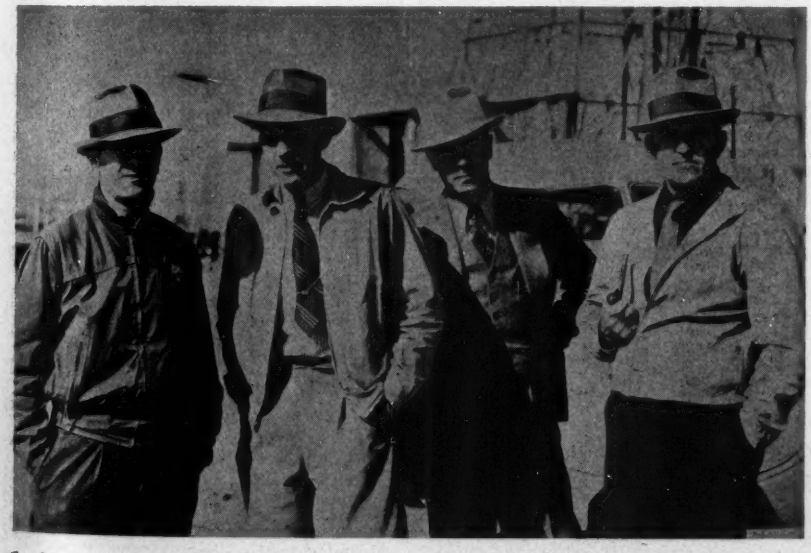
A third "high" in the central portion of the field was discovered by General Petroleum Corp. in its Gordon No. 1 which was finished



Rosecrans today.



In a minute the bit will come off and out will come a directional survey instrument. This is a Union Oil crew in Rosecrans.



Looking over St. Anthony Oil Co.'s Rosecrans test are, left to right: H. A. Wood, Yowell; Paul Lewis, Pacific Cementing; A. J. Petersen, Security Engineering; R. Barnhart, Long Beach.

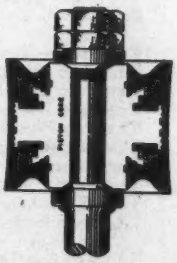
We've made the weak spot the STRONGEST!

Cross section view, shown above, shows how upsetting allows the grain of the rod to follow the contour of the larger diameter, giving greater strength where it is needed most.

Another improvement in D & M Universal Rods to meet the severe demands of modern drilling! Higher pressures demand greater strength and D & M provides it in these new Rods. For Safety, Simplicity of handling and Long Life, standardize on D & M Universal Rods.

BETTER PISTONS, TOO!

Highest quality electrically melted iron cores will not yield under high pressure. Wear is absorbed by specially compounded rubber, graduated in hardness from center to each lip, to give longest wear.



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Cameron-Well Heads, Blowout Preventers, Mud Valves
Case Pumping Engines
Cardwell, Drawworks, Well Service Hoists
Chiksan Hose, Swing Joints
Crown Hydraulic Pumping Units
D & M Pistons—Rods, Liners
Edwards Wire Rope
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Link-Belt Rotary Chain, Mud Screens
Manhattan Mechanical Rubber Goods Rotary Hose
Marsh Gauges
Mills Bull Plugs, Swage Nipples
Norris Sucker Rods
Perfection Thread Lubricant
Plant Packings
Ratigan Production Equipment
Raybould Couplings
Red Devil, Valves, Liners, Pump Parts
Reed Bits—Tool Joints
Republic Casing and Tubing
Republic Line Pipe
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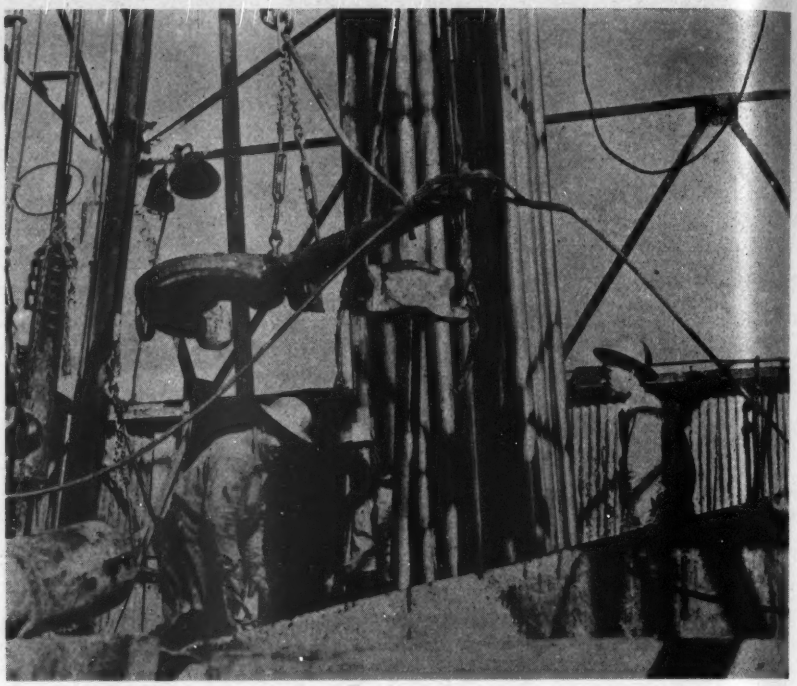
BAKERSFIELD - LONG BEACH - TORRANCE
MONTEBELLO - HUNTINGTON BEACH
VENTURA
WILMINGTON - COLE'S LEVEE

in October, 1924 flowing 250 bbls. of 37 gravity crude.

Later development proved that Union's discovery well was completed in the lower section of the Athens zone. Howard Park No. 9 in February of 1925 came in for a yield of 500 bbls. from a depth of 4350 ft. Production was obtained in almost continuous sands from 4100 ft. down well below 5000 ft. and it was in this area that E. J. Miley drilled his famous Athens No. 6, which in 1925 was the deep-



Oilfield workers are a cheerful lot. However, just try to get on an Union Oil Co. derrick floor without your iron hat. This is another Rosecrans activity scene.

It won't be long now. Wilton Oil Co. is setting up for another Wilmington townlot operation. Wilmington is the most active area in the Basin.

Magnetic Method of Orientation

(U.S. Patent 2,120,670 and others pending)

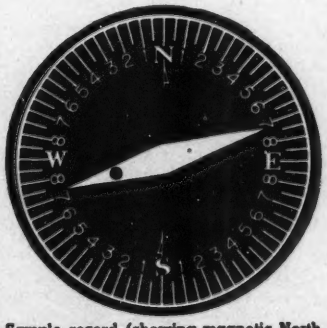
A Fast, Accurate, Self-Checking Method for Orienting Deflecting Tools . . . . . .

This new method developed by Sperry-Sun assures the correct orientation of deflecting tools at the bottom of the hole.

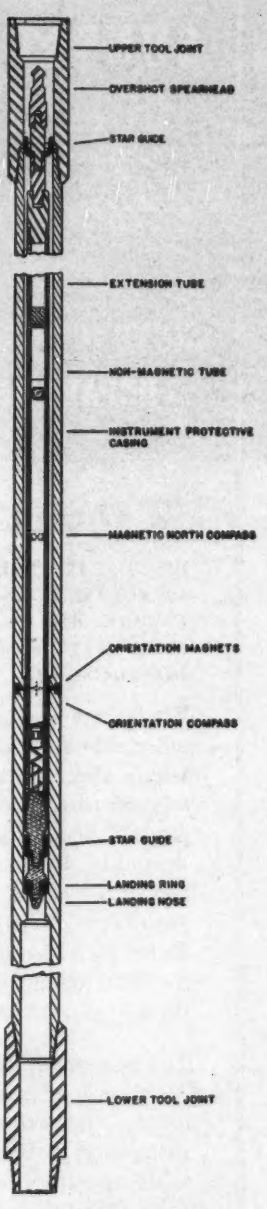
A sub containing two small magnets and provisions for seating a Directional Magnetic Single Shot Instrument with one Compass directly opposite the magnets, is arranged in the drill string immediately above the tool to be oriented. The relative azimuthal angle between the magnets and the direction of the tool face is measured prior to lowering the drill string in the same manner as an ordinary bit into the hole. After the tool has reached bottom, a record is taken with a Single Shot Instrument in which a second compass has been temporarily interchanged for the inclination unit. This record indicates the magnetic North and also the position of the deflecting tool in the hole, since the compass located opposite the magnets is attracted by them. The tool is then rotated to bring it into the correct position, and another single shot record is made to check on the final position of the deflecting tool.

This method has been successfully used in the field for over a year. It is **accurate to within one-half of a degree (½°). It is speedy,** as no drill stem orientation is required, **and the operation is done by one man on the derrick floor. A photographic check record is obtained** of the position of the tool prior to starting deflected drilling.

For LICENSES under the above patent, apply directly to the Philadelphia Office.



Sample record (showing magnetic North, as well as direction of deflecting tool section of needle with round circle indicating direction of tool).



Non-Magnetic Sub

SPERRY-SUN WELL SURVEYING CO., 1608 WALNUT ST., PHILA., PA.

SUNSET OIL COMPANY

Announces

A NEW CONTRACT DRILLING DEPARTMENT

2 POWER RIGS

RIG No. 7 POWERED WITH a *WAUKESHA GAS-BUTANE ENGINE.* RIG No. 9 POWERED WITH a *CUMMINS DIESEL ENGINE.*

These rigs are especially adaptable for operations where the installation of a boiler plant is costly, or gas and electricity are not available. Both rigs are equipped with electric generating equipment. Either rig is recommended for 8000 foot drilling with the use of 4½" drill pipe.

The Sunset Oil Company, *fully covered in its operations with all types of insurance,* will contract with operators on a per foot or a per day basis.

For economical performance let Sunset bid on your next drilling job... call Geo. H. McCarthy, Vandike 1271... or write

SUNSET OIL COMPANY
988 Pacific Electric Building
Los Angeles, California

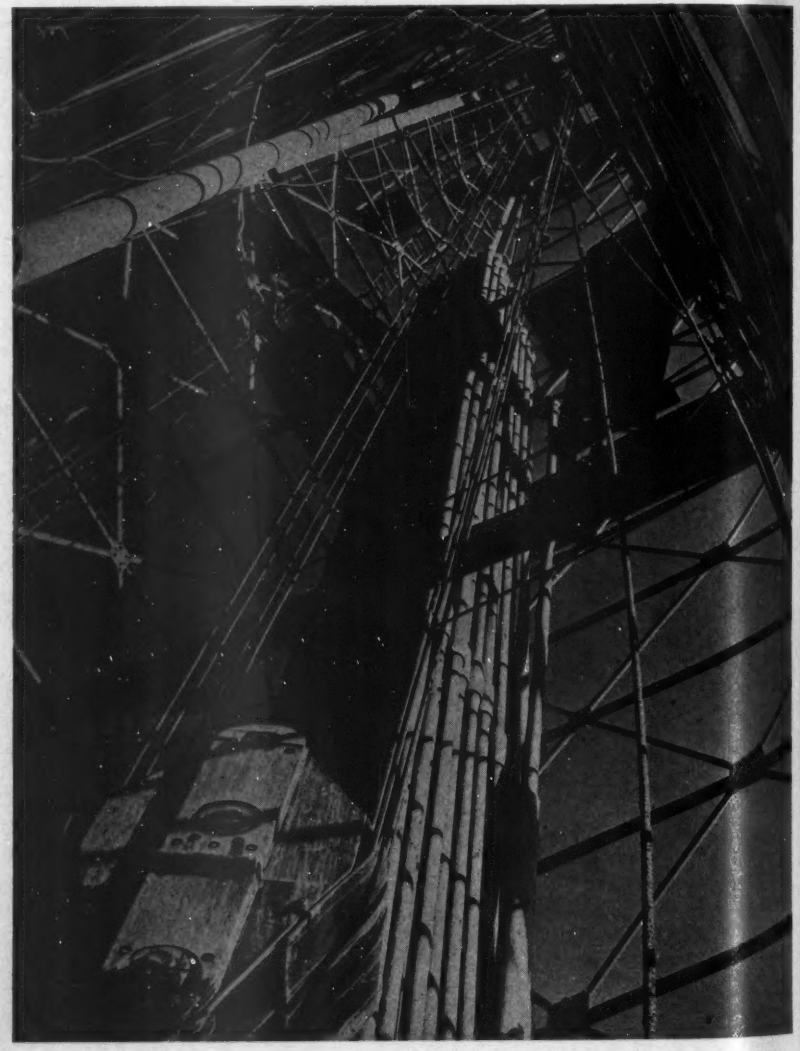
est hole in the world at 7591 ft. Incidentally, this well is yet producing.

Next find of importance within the field was Barnsdall Oil Co.'s discovery of the Zinns zone in O'Dea No. 14 which came in November 17, 1927 flowing 1500 bbls. from 5812 ft. This became the largest producing horizon but at present less than 20 wells yield approximately 1000 bbls. among them.

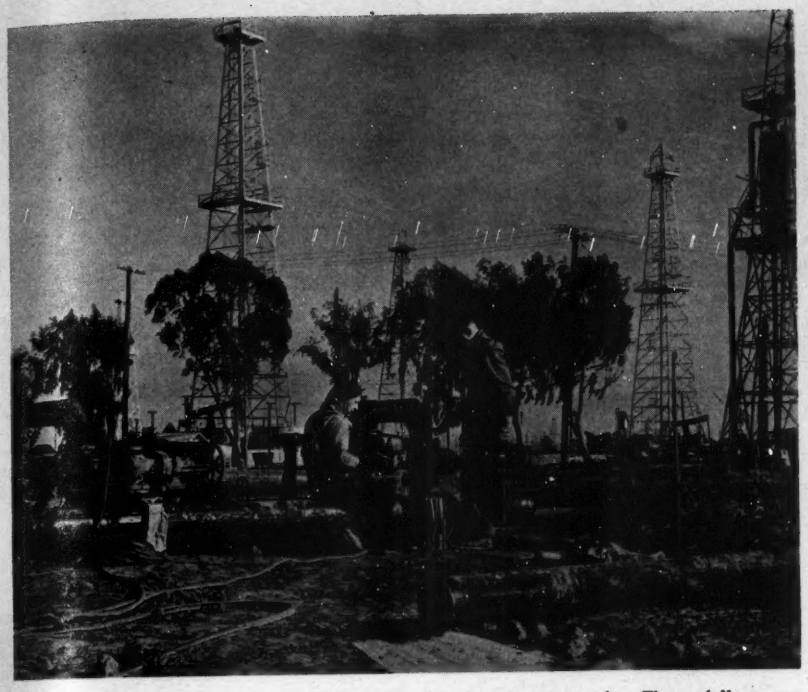
Not until ten years after the discovery of the Zinns zone was a new horizon found. In March of 1937 Barnsdall Oil Co. carried O'Dea No. 10 down as a test of the Miocene and we find the following front page item in the California Oil World News Service for March 20:

Barnsdall Oil Co. O'Dea No. 10, deep test of the Rosecrans field, was completed 3/15/37, flowing at a 500 B/D rate, 36.0 gravity oil, cutting 28.0% drilling water and mud, through a 46/64 in. bean. On 3/19, well made 700 bbls. 36.0 gravity oil. Total cut was 1.0%. Gas production was 4,000,000 cu. ft. flowing through a 31/64 in. bean. Pressures were 1100 lbs. on the tubing and 1500 lbs. on the casing. Total depth is 7664 ft., plugged to 7540 ft. 6⅝ in. casing is set at 7240 ft. and 4¾ in. perforated liner is landed on top of the plug at 7540 ft.

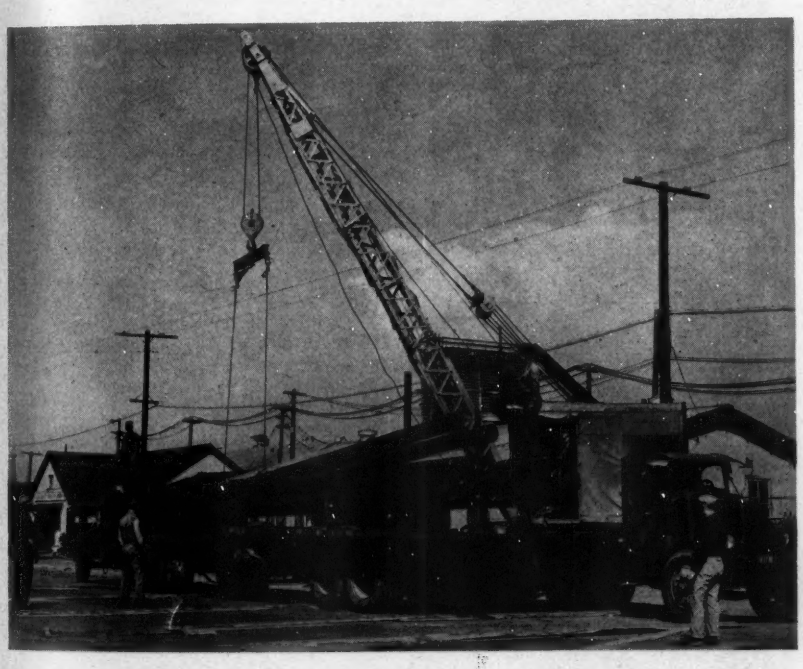
This discovery proves Miocene



Here is how pipe looks racked in the new type derrick designed to provide greater racking space. This is St. Anthony Oil Co.'s Rosecrans rig.



The welding art has proved one of the oil industry's greatest aids. These fellows are making quick work of a tough Union job in Rosecrans.



Loading Imperial pipe at Wilmington for Howard Supply.

production for the structure and should result in considerable drilling.

In the three years since that prediction was made the O'Dea or 7th Callender zone became the most important horizon of the Rosecrans sector of the field and the end is not in sight with operators still extending limits of production in that and the 8th Miocene zone.

To date, more than 40,000,000 bbls. of oil worth well in excess of $50,000,000 have been extracted from General Rosecrans' old Rancho.

Precision

RIFLE-HONED I-R METAL PUMPS

For Every Well Condition

Built to handle the toughest pumping jobs with ease, Alford I-R METAL Pumps outperform every pump on the market both for life of service and increase in fluid lifted. Alford I-R METAL Pumps are fitted to extremely close tolerance between plunger and barrel liners. The extreme hardness and non-galling properties of I-R METAL, rifle-honed to perfect cylindrical form, assure longer life and greater pump efficiency. Alford I-R METAL Pumps are available in any combination to meet your requirements.

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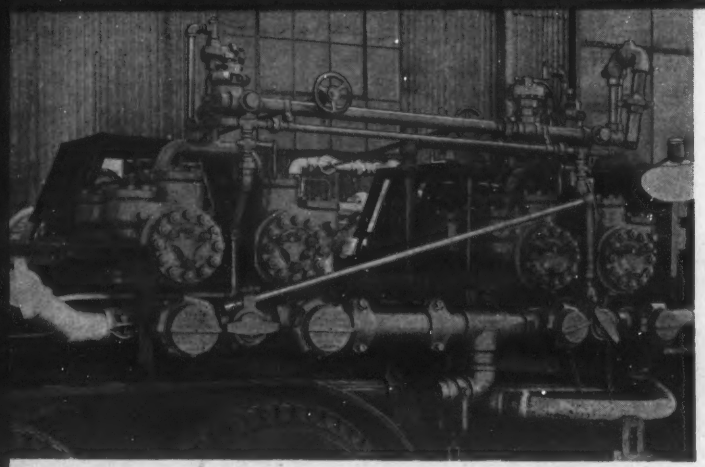
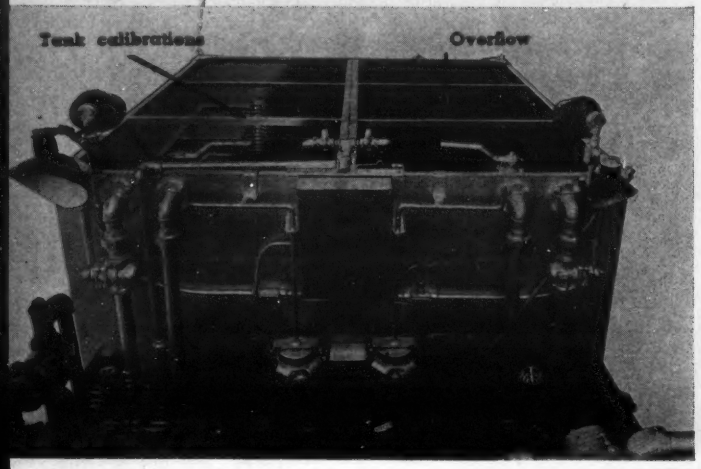
PACIFIC'S LATEST ADDITIONS TO OIL WELL CEMENTING

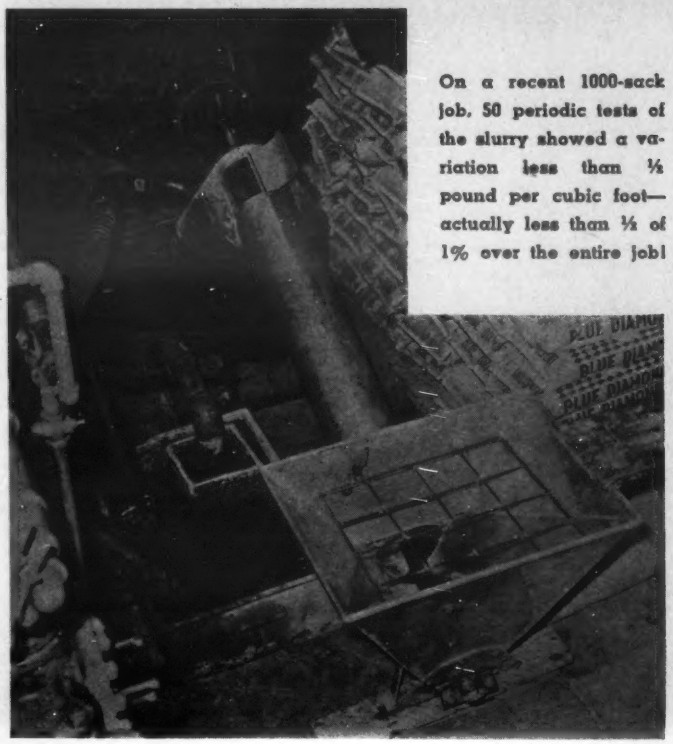




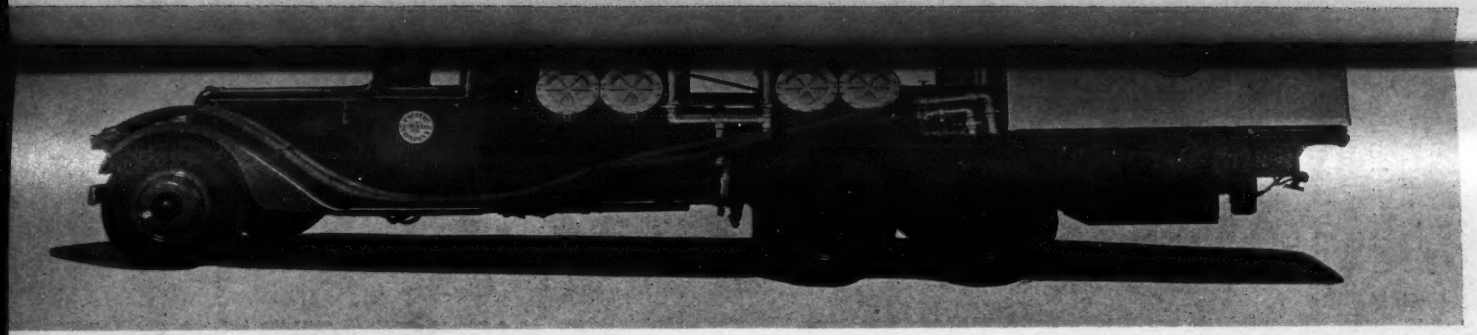
Good cement work starts with the mixing! Will the cement mixer used on YOUR jobs perform these important operations? . . .

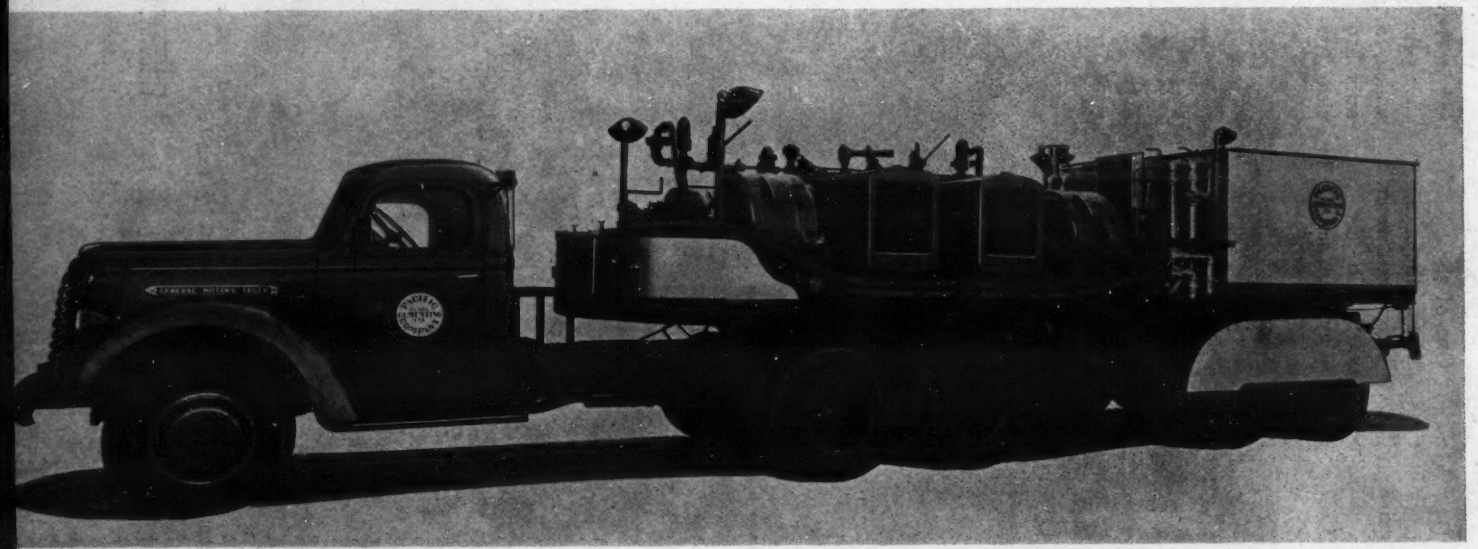
1. Mix 54 sacks per minute?
2. Mix 35% of pea gravel?
3. Mix up to 50% sand, on plug work for sidetracking?
4. Mix Fibre-Tex, cotton seed, bean pulp, beet pulp, calcium carbonate, heavy Aquagel solutions, and pure bentonite?
5. Mix cement with a variation less than 1 pound per cubic foot?
6. Mix 131-pound cement?
7. Mix cement smoothly?

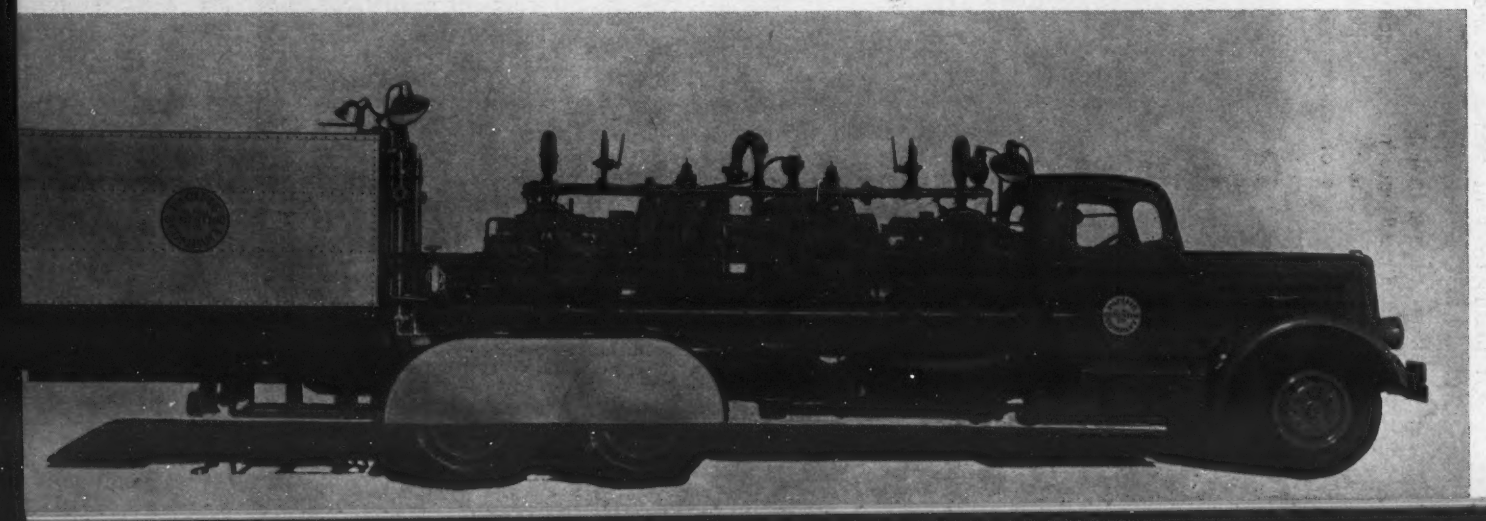
PACIFIC MIXERS do all of the above as a regular routine part of the job.



On a recent 1000-sack job, 50 periodic tests of the slurry showed a variation less than ½ pound per cubic foot—actually less than ½ of 1% over the entire job!







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All PACIFIC MEASURING TANKS are provided with overflows, and are calibrated by the Department of Weights and Measures of the State of California to insure the extreme accuracy which is ABSOLUTELY ESSENTIAL in long or close plug work.

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Natural Zeolite Water Softener, Salt Saver,

Saves Initial Cost on First Well

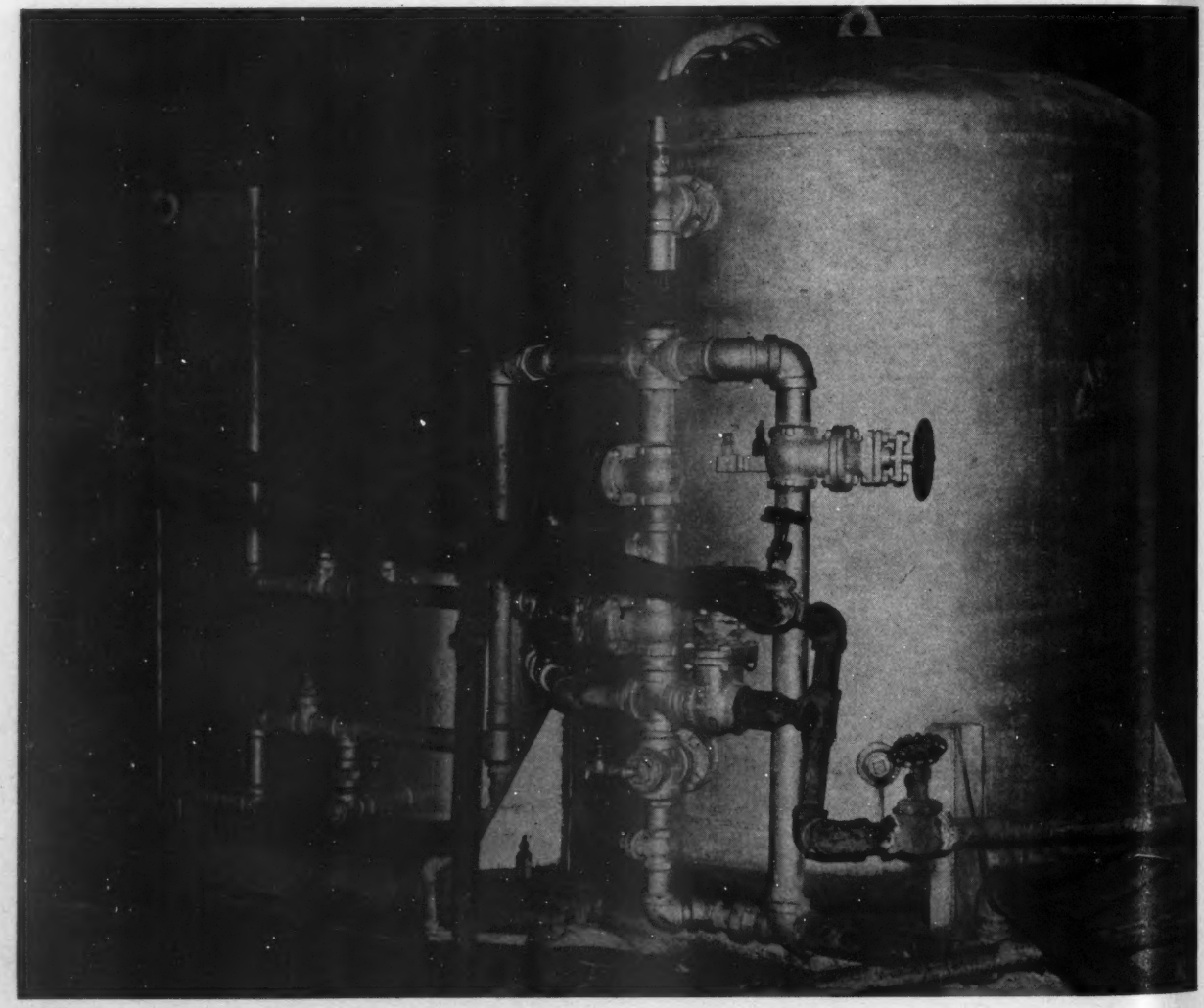
One of the most difficult of the many problems which make California oil well drilling a standing challenge to the engineer and equipment manufacturer is that of obtaining suitable boiler feed water. "Bad water" has been the source of more headaches among drillers than heaving shales, loss of circulation or water intrusion. It means frequent shutdowns and usually expensive replacement.

Many attempts have been made to maintain a semblance of continuous drilling through the use of various make-shift methods of water treatment. The wise driller, however, making a study of the problem presented by his particular water supply, employs the assistance of a capable water technician, and thereby saves himself time and money in the long run.

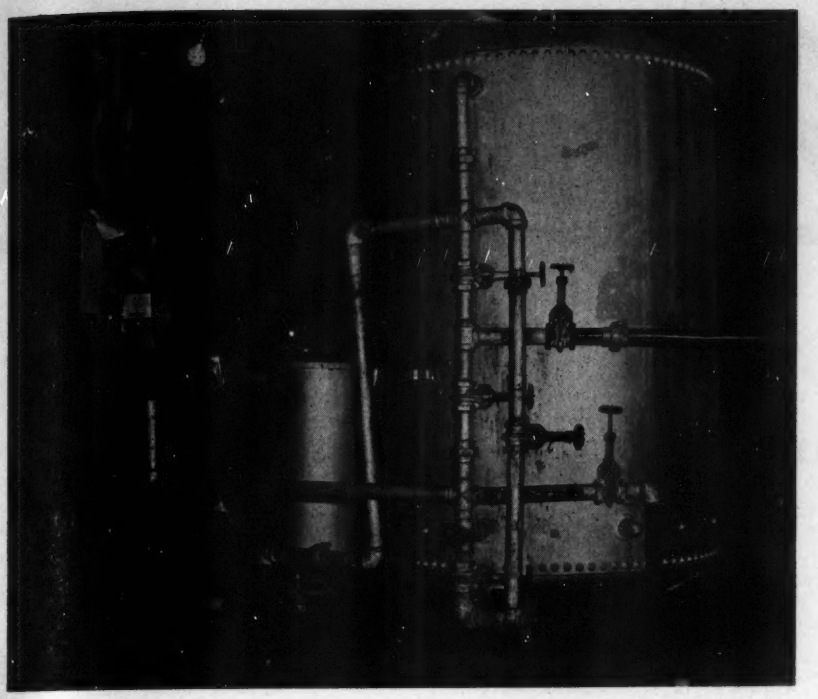
Efficient drilling plant maintenance means more footage at lower cost. Drilling cost is not reduced solely by beating formation problems which stop the drill. One of the most important factors, if not the most important, is good boiler feed water.

Drilling experience in the new Coalinga area play has served to emphasize the need for good boiler feed water. Drillers soon learned that the "50-grain hardness" water of that area leaves no room for make-shift solutions to the boiler feed problem.

A pioneer in the Coalinga area tackled the hard water problems by using a chemical treatment in two large tanks, In one of the tanks, certain chemicals were stirred into the raw water for the purpose of removing its hardness. The mixture was then permitted to stand awhile after which, assuming that the hardness salts had been precipitated out, the clear treated water was decanted in-



The rugged construction and compactness of the natural zeolite water softening system and salt regenerating unit are striking. This installation is on a Coalinga well drilled by Taft Drilling Co.



Another natural zeolite installation on a Coalinga pool well.

to a second tank for the boiler feed pumps. The cost of treating the boiler feed water at this location was in excess of $3,000, and yet the treatment did not prove satisfactory. The boilers continued to give trouble and caused numerous shut-downs.

In drilling an offset to this well, the driller turned to the zeolite method of softening water for boiler feed purposes. Though the zeolite method requires no introduction to the petroleum industry, this particular application had not been tried previously by this driller.

Zeolite has been used for softening water for boiler feed water systems in the petroleum industry for many years. Its effectiveness and added value in the method of regeneration recently introduced in California's "hardest water areas" are noteworthy.

The complete unit, including the softener tank which houses the zeolite and the salt tank which provides for the brine used in regeneration, is mounted on skids and may be transferred easily from one location to another. The portability of the system is an important consideration.

The Coalinga driller mentioned above used this type of zeolite unit. He found that zeolite softened water provided an excellent supply for his boiler feed make-up and eliminated the boiler trouble which caused so much delay at the first well. He also found that the difference in costs between the chemicals used on the first well and the salt used for regenerating the zeolite on the second well was enough to pay for the entire zeolite water softening system—which will be used for years to come.

All natural water contains certain dissolved minerals which, when heated, come out of the solution. When the water is used for boiler feed purposes, these minerals are deposited on the tubes and other parts of the heating surface in the form of a rock-like scale. They are usually the carbonates, or sulphates of calcium and magnesium. The accumulation of scale acts as an insulator, which requires increase in fuel supply and consequently a decrease in efficiency to maintain proper steam pressure. The final result is boiler tube failure, expensive repairs and loss of time.

The zeolite used in the Coalinga installation and in a growing number of similar installations throughout the Valley, Basin and Coastal fields is known as Refinite natural zeolite. Mined near the Black Hills of South Dakota, this zeolite is a natural clay-type mineral. In its raw state it will soften water, but for commercial use it is refined to form a uniform grain size for more effective application, and to increase its natural capacity for softening water.

Refinite zeolite softeners are regenerated with a brine solution, and virtually the entire cost of softening water is the cost of salt. The Coalinga installation has a "salt saving" feature that reduces the salt cost by at least 35%.

The cost of softening the Coalinga 50-grain water has been reduced to as little as 7½c per thousand gallons, while 10-grain water has been corrected for as little as 1½c per thousand gallons with this equipment. With it the boilers are kept absolutely clean and may be overloaded with safety.

R. E. Havenstrite to Drill Newhall Wildcat

Larronde No. 1 well of R. E. Havenstrite, operator, at Dominguez, is one of the best wells in the southern Basin fields. The No. 2 well is now coring, while location is being made for the No. 3 well on the same lease.

In the meantime W. E. "Bill" Long, superintendent, announces the purchase of the latest model large Wilson Power Rig to drill the No. 3 well, after which it is to be moved to their Lincoln Petroleum Co., lease near the Barnsdall's Newhall field. Homer Havenstrite who has thoroughly checked the new property at Newhall says it has the best prospects of any wildcat in the Basin, from all indications of geology and proximity to an existing high gravity field.

Nicely framed in tree branches is this South Mountain deep test of Standard's.

Field Development

San Joaquin Valley

Pure Oil Co. Prepares To Drill Coalinga Well

Signifying its intention to drill long held acreage near the southwesterly edge of Coalinga Northeast shoreline production, Pure Oil Co. is grading and setting boilers for Schwimm Estate No. 44-30B. Located near the center of sec. 30,19-16, the well will be next to drill into the rich Gatchell oil sand recently proved to be present in this southerly extension of the Northeast field by Bandini Pet. Co.'s 51-30-B.

While the current project is nearly half a mile south of the Bandini completion and due west of the unfruitful Wilshire Annex Oil Co.'s 64-30B, a favorable westerly rise of Gatchell sands places the site well up structure. Known to be near the westerly limits of the shoreline, the location is believed, however, to be over the 7550 to 7600 ft. subsea level contour, which in the opinion of qualified experts should afford the company from 150 to 200 ft. of producible sand. Moreover, the position of the try, almost astride the gas and oil sand contact contour, should provide a most advantageous gas-oil production ratio.

The company acquired the property in the early days of Coalinga Northeast development and held it until geological and drill findings confirmed its opinions before engaging in the costly operations necessary to deep Valley drilling.

Pure Oil Co.'s California operations are directed from its Bakersfield office by H. C. O. Clarke.

Mendota Area Wildcat Keeps Industry Guessing

Located in sec. 29,14-13, thirty odd miles northwest of Coalinga, Jergins Oil Co. is continuing its mystery hole, Cheney Ranch No. 1, in cretaceous below an estimated 7300 ft.

With the location evolved by the new method of soil analysis under direction of Jergins technicians, the utmost secrecy has been maintained by the company. Usually reliable sources, however, disclosed the indicated depth along with the information that while no pipe has been

SAN JOAQUIN VALLEY WILDCATS

Area	Well	No.	Section	Depth	Status
	Fresno County				
Cantua Creek	The Texas Co., S.P.	1	23, 17-15	9180	Drilling
Coalinga	Lewis, C. H.	1	18, 21-15	800	Idle
	Section Thirty Oil Co.	7	30, 19-15		Rig
	Tide Water Assoc. Oil Guardian	22	2, 20-15		Rigging up
Gatos Creek	Gatos Creek Oil Co.	1	19, 19-13	466	Idle
Huron	The Texas Co., Boston	1	14, 20-18	9300	Drilling
Mendota	Jergins Oil Co., Cheney Ranch	1	29, 14-13	7300	Drilling
	Kern County				
Arvin	Morton, Lindley C., Jewett	1	23, 31-29		Location
Antelope	Par Petroleum Co.	1	32, 25-17	3032	Idle
Belridge—South	Union Oil Co., Fitzgerald-Weston	1	13, 29-21	4180	Drilling
Buena Vista	Gen. Pet. Corp., B.V.A.	1	1, 32-24	11601	Drilling
	Shell Oil Co., B.V.A.	45-9	9, 32-25	10791	Drilling
Buttonwillow	Union Oil Co., Bowerbank	4-23	23, 29-24	12144	Abandoned
Comanche Point	Oil Scout, Inc.	1	27, 32-29	3577	Drilling
Devil's Den	Trigg, H. C.	1	11, 25-18	475	Cleaning out
Edison	El Tejon Oil & Ref. Corp., Douglas	2	32, 29-29	4280	Pumping
	Goodrum & Vincent, Inc., S.P.	3	31, 29-30	803	Idle
	Mayes, A. S.	1	5, 30-29	4222	Pumping
	O'Reilly, Francis, Edison-Land	2	5, 30-29	4103	Idle
	O'Reilly, Francis, Edison-Seale	5-28	5, 30-29		Location-Equip.
	Wood-Callahan, Heyden	1	21, 30-29	4370	Drilling
Grapevine	Richfield Oil Corp., Tejon Ranch	1	2, 10-19		Rig
Kern Front	Davis Petroleum Co.	1	13, 28-27	1804	Bailing
Kern River	Sleeper Ridge Oil Co.	1	15, 29-28	1797	Idle
McKittrick	Burt & Taylor, Taylor	1	30, 30-22	1047	Idle
	Franco-Western Oil Co.	17	8, 30-22	2092	Drilling
Mt. Poso	Golden Bear Oil Co., Glide	1	19, 26-28		Rigging up
	Hearte, O. K., Tracy	1	36, 26-27		Rigging up
Panorama Hills	Burrhus, V. E.	2	31, 31-22		Rig
San Emigdio	Shell Oil Co. KCL	2A 52-13	13, 11-22	13873	Plugged 12,430
Shafter	Continental Oil Co., Comm.	1	12, 28-24	11335	Drilling
Shale Hills	Gamble & Oliver, Abbott	1	7, 27-19	2047	Idle
	The Texas Co., McD-Theta	1	12, 28-19	3198	Drilling
Ten Section	Richfield Oil Corp., James-Slough KCL	1	6, 31-26	10250	Abandoned
	Kings County				
Kettleman—South Dome	Bristol Oil Co., Smith	1	35, 24-19	8054	Rng. casing
Reef Ridge	Chuka Oil Co.	2A	10, 23-16	185	Idle
So. Tulare Lake	Dudley, Ben	1	11, 24-20	2600	Idle
W. Tulare Lake	Shell Oil Co., Cohn Estate	6-4	4, 22-19	10035	Reaming
	Tulare County				
Richgrove	Collins, James F., Konda	1	25, 24-27	1654	Abandoned

run to date, there is a strong possibility that casing will be set over promising gas sands found near 6700 ft.

Originally drilled as a test for an Eocene shoreline deposit similar to the prolific fields recently developed east of shallow Coalinga production, the project received a severe jolt when that formation was barren at yet undisclosed depth.

Drilling is being continued in hope that the Cretaceous may yield showings worthy of a test, with actual findings still obscure. The odds are best attested by the fact that production from cretaceous sand has been accomplished only at one point in the entire state. This shallow yield is in the Oil City area at the north edge of the Coalinga shallow field, immediately west of which the sands are found to outcrop.

No formation tests have been made since, during an attempted run at 6716 ft., the tester would not go down. Pending concrete knowledge concerning horizons encountered, the entire industry remains in a state of anticipation toward this important test.

Cantua Creek Try Enters Dry Eocene

Latest of a long continued series of tests in which many of the large operators have engaged is The Texas Co.'s S.P. No. 1. Located in sec.23,17-15 on an undrilled section of Fresno county's Cantua Creek district, the well entered barren Eocene formation near 8800 ft. and was last reported at 9150 ft.

Despite the fact that all previous trys proved unfruitful, all found good reservoir sands and some showed considerable quantities of oil; the major problem being to locate the trap, if one exists.

Coalinga Shallow Tests Pending

Section Thirty Oil Co. has erected a rig for a shallow well in sec.30,19-15 of the old Coalinga field, while Tide Water Associated Oil Co. is rigging up to drill well No. 22 on the old Guardian lease in sec. 2,20-15.

Bandini Completes Coalinga N. E. Well

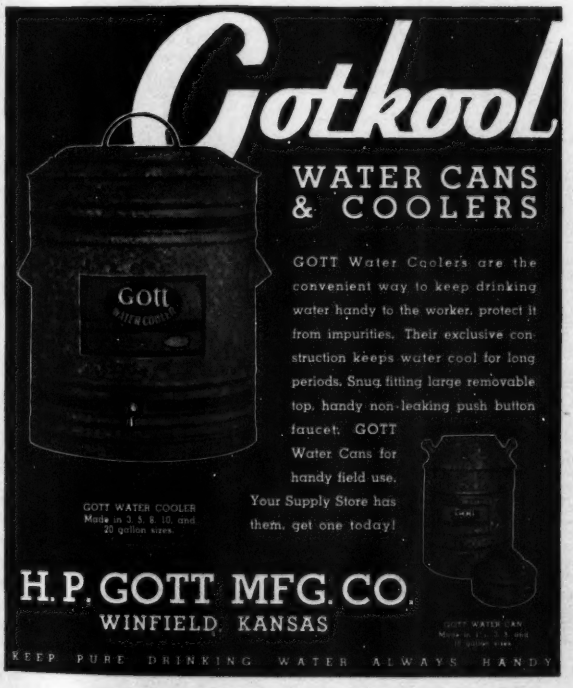
Completion of Bandini Petroleum Co.'s well No. 51-30B near the north quarter corner of sec.30,19-16 has extended the productive limits of the Coalinga North East field three quarters of a mile in a southerly direction. Predicating opinions on the poor showings of Wilshire Annex Oil Co.'s 64-30B near the center of the section, many prognosticators condemned the well's chances and are now probably on an exclusive diet of crow.

Completed flowing a 2915 bbl. rate through a 44/64 in. bean, the well yielded 27.2 gravity oil cutting only a little more than 1%. Beaning back to conform to the best curtailment practices, operators have reached a 3/64 in. orifice and still the well makes 133 barrels of oil daily, while producing only 60,000 cubic feet of gas. The favorable gas-oil ratio thus achieved is the envy of many Coalinga operators who have had unhappy moments while attempting to handle the terrific volume of high pressure gas present in this field.

Bandini's well, No.46-18B, at the northwesterly tip of the field in sec. 18,19-16, which cored only 7 ft. of oil sand in its 9614 ft. of drilling, plugged back to 7985 ft. for a test of the streak of high pressure Gatchell sands.

A formation test of the zone, with a 3000 ft. water cushion, indicated that probably 7 ft. of such zone is enough for anyone, since a 50,000,000 cubic foot blow reached the surface in 17 minutes. Quantities of high gravity oil present in the blow could not be estimated since the pipe was simply pointed toward the sump, with no facilities to trap the condensate.

The mechanics for completing this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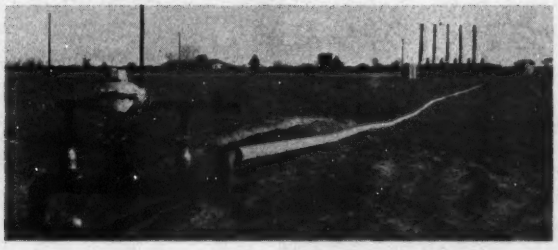

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well are especially interesting since an entirely new technique is to be used. With only 600 ft. of 13 3/8 in. surface pipe in place; 249 ft. of 7 in. liner including 20 ft. of perforations was landed on top of the plug at 7985 ft. and cemented through perforations at 7940 ft. in order to make a safe seat for the formation test. Now that such satisfactory results have been obtained and since large size liner is already cemented on bottom, the operators are to run a string of 4¾ in. pipe and cement inside the liner. The practicability of this plan cannot be denied since it affords large size surfaces against the sands, and a sufficiently large connecting string to properly carry oil to the surface.

Hopes Revived For Grapevine District

In line with its pledge to properly prospect the tremendous south Valley acreage recently acquired, Richfield Oil Corp. has built rig for a deep test on the plains near the west quarter corner of sec.2,10-19. The new test is but two miles southeast of the small, heavy oil production obtained from the Miocene Monterey shales. The current project is also but slightly removed from the suspended 9190 ft. hole drilled by The Petrol Corp. in sec.33,11-19, which was attempting to find lower Miocene production when the drill pipe was lost. It is supposed that the current try is to prospect the Vedder horizons which the Petrol project unhappily failed to explore.

Further activity is also promised the plains at the base of the Ridge, by rumor that John McKeon is backing the play designed to drill sec.19,11-19. Located some three miles northwest of the only oil found in the Grapevine area, the try is placed upon a theoretically simple and complete structure.

Huron Deep Try Below 9000 Ft.

Drilling in here-to-fore untested levels near the Fresno-Kings county line, The Texas Co.'s Boston No. 1 is bottomed below 9250 ft. The well pioneers an area which has never before had an adequate test, and is held to have chances to find production in either Miocene or Eocene formations.

Shell Oil Locates Round Mt. Wildcat

Plans to drill Brandt No. 1 near the north quarter corner of sec.33,28-29 have been announced by the Shell Oil Co. Located a little more than a mile southeast of the southerly tip of the Round Mountain field, the site is in comparatively virgin territory since no well has been drilled within the section. Adjacent sections have, however, been drilled to barren depths ranging from 2800 to 3800 ft.

Tulare Lake Test Ready to Resume

With stuck drill pipe cleared from the 10,035 ft. hole, and conditioning operations nearing an end, Shell Oil Co. is ready to resume drilling Cohn Estate No. 6-4. Located at the westerly limits of Tulare Lake bed in Kings county, the well is the first deep test of a long neglected district. With no information to correlate against, the well is forced to completely pioneer this area. Finding the Reef Ridge near 9300 ft. and the McLure shale near 9800 ft., the well is in the

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upper Miocene section, but its relative position is unknown. With the lower Miocene and the entire Eocene yet to come, the well still offers Shell an opportunity to find a new Valley field.

Continental Nears Objective Zone

A persistent search for Vedder production in the area southeast of the Wasco field is being carried on by the Continental Oil Co. in sec. 12,28-24. The current try, Community No. 1, latest of a long series in which many of the large companies of California have participated, is drilling below 11,285 ft. after finding the Olcese near the 10,800 ft. level. Located in the Shafter area, the well encountered streaks of oil stained sand and gas showings near the 9000 ft. mark.

Morton Seeks Arvin Production

Lindley C. Morton has announced plans to drill another Arvin wildcat in sec.23,31-29. Following closely after a 5955 ft. hole which Morton drilled in the unproductive sec.25,31-29, the new enterprise evidences the faith in which this operator holds the possibilities of the area lying just east of Arvin.

Actual drilling will be done by J. E. Brantly's Drilling and Exploration Co.

Richfield Quits 10 Section Well

James Slough-KCL No 1, located between Ten Section and Cole's Levee fields, on sec.6,31-26 has been abandoned at 10,250 ft. by Richfield Oil Corp. Drilled in an effort to expand the known productive limits of the Stevens zone, from which both fields produce, the well encountered only meager showings slightly below 10,000 ft., at which point the well was already below the productive levels of both fields.

Richfield Plans 2nd Wheeler Ridge Test

Apparently feeling that KCL No. 1, immediately south of shallow Wheeler Ridge production in sec. 28,11-20, had encountered only an edge of a deep structural high, Richfield Oil Corp. has made a location for KCL No. 2 near the south quarter corner of the same section.

Only some 2000 ft. south of the original 11,004 ft. well, the attempt is apparently upon the assumption that the structure is asymmetric in character and that the new spot will top the subsurface high.

Federal Land Office Prospecting Permit Dates

About 51,000 acres of land formerly held under oil and gas prospecting permits will be open to oil lease application on Mar. 25, 1940 under the act of Feb. 25, 1920 as amended. Applications may be filed in the United States Land Office at Sacramento during the 15 days immediately preceding Mar. 25.

All applications must be sworn to and be accompanied by the proper fee.

The land represents government lands in Kern, Monterey, Santa Barbara, Kings, San Luis Obispo, Mendocino, Fresno, San Benito, Ventura, and San Joaquin counties.

Joint Electrolog-Survey Offered by Lane-Wells Co.

Lane-Wells Co. has announced a combination Electrolog-Survey in all fields where Electrolog Equipment is operating, according to M. E. Montrose, general sales manager, Lane-Wells Co.

This combination of two services is a definite contribution to the oil industry inasmuch as it results in a saving in down time of from two to two and one-half hours over the time formerly required for running each service individually.

After setting up at the well the Electrolog run is made to record formation resistivities and natural potential. As soon as the electrode comes out of the hole a Multiple Shot Survey Instrument is attached and run to the bottom of the hole. Hole inclination and direction is recorded magnetically on the film as the Survey Instrument is withdrawn. By surveying on the way out any tendency for instrument whipping or swaying is eliminated, thus making certain that the instrument is parallel to the axis of the hole. As many as 250 readings can be made on a single run.

Mount Poso Gets Two Outpost Trys

Golden Bear Oil Co., long time operator in the east Valley fields, is rigging up for a test of sec.19,26-28. The well, to be known as Glide No. 1, is located a mile northwest of Mount Poso production.

Also rigging up is O. K. Hearte's Tracy No. 1. Located 2 miles west of commercial production, in sec.36,26-27, the well has been preceded by numerous attempts to extend the pool limits.

You are reading the Pacific Coast oil men's home paper.

Jud Williamson and Karl Clark of Security Engineering, are looking over one of the deep Valley tests.

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Los Angeles Basin

El Rey, Westmore 1 Seeks 7th Callender

El Rey Oil Co., Westmore No. 1 is now at the make or break stage in its search for Miocene oil sands in the same stratagraphic position as the so-called 7th Callender zone of Dominguez.

After a couple of false alarms, the top of the Puente was finally picked at 8190 ft., and with bottom of the hole now at 7500 ft., it is thought that if the sandy phase carries this far to the northwest, it should be encountered within the next 200 ft.

Showings to date have been poorer than expected, the only encouragement being a few streaks of unsaturated, oil stained sand.

The well is located on a direct line between Potrero and Athens at the northwest corner of Imperial Highway and Western Avenue.

Consolidated Pumps Deep Newhall Project

Obtaining only a small amount of oil the gravity of which was reported to be 36 degrees, Consolidated Petroleum Co. placed Needham No. 4 on the pump. Located just north of the old Newhall tunnel site, the projeet was recently deepened to 4398 ft. where a perforated liner is landed.

Below the water string shoe at 4028 ft., the formation is nearly all sand of Eocene age, but is so hard and tight that its petroleum content enters the hole at a very slow space.

British-American Petroleum Producing Co. took over the old Tamas Oil Co. well in sec. 14-3-16, re-christened it Edwina No. 1, and started deepening operations. When last reported, bottom was in hard shale at 4100 ft.

Continental Howell 1 Cores Saugus at 4255 Ft.

Howell No. 1, Continental Oil Co.'s wildcat test of the westerly portion of Reservoir Anticline in the northwest section of San Fernando Valley, was still in Saugus at 4255 ft. according to "bug men" who have examined the cores. The well's prospects have dimmed somewhat because of the unforseen thickness of the Pliocene and there is a rumor to the effect that the well will soon be abandoned and the rig moved to a more easterly location.

A few showings have been encountered, the last being streaks of fine silty sand at 3915 ft. which appeared fairly well saturated but not capable of production.

Tucker To Drill Buena Park Well

H. M. Tucker is preparing to drill a wildcat well west of Buena Park and half a mile northeast of the dry hole drilled a year and a half ago by D.H.B. Oil Co. The foundation for the rig was put in several weeks ago and has been variously reported as Phillips & Sturges and Loma Grande Oil Co.

Garden Grove-Westminster Is Popular Wildcat Area

The flat land lying between Westminster and Garden Grove has suddenly come into prominence as a popular spot for independent wildcats.

First to get started is United Oil Co. a quarter of a mile south of the crossroads of Stanton. R. W. Jerman heads the concern.

Between United's well and Garden Grove, five miles to the east, Bird & Chambers are building derrick for a well at the southeast corner of Lampson and Magnolia Sts. The drilling of this one is said to be contracted to W. D. Owen.

A third well is scheduled to be started this month near Westminister by Plainview Oil Co., headed by L. H. Bennings-dorf.

Beach Deep Test Encounters Trouble

South Basin Oil Co.'s No. 93, seeking deep production at the east side of the Huntington Beach old field, lost half of its 7572 ft. of hole and is now attempting to redrill from the shoe of the old 8⅝ in. water string at 3771 ft.

Pacific America's No. 6 on the old Encyclopedia lease was completed at 3875 ft. as a small pumper. The 7 in. casing was perforated at intervals below 3650 ft.

H.R.O. Oil Co. failed to find productive sand at a depth of 4785 ft. in its semi-wildcat southeast of the Alabama Street area and plugged back to recore

LOS ANGELES BASIN WILDCATS

Area	Well	No.	Section	Depth	Status
Athens	El Rey Oil Co., Westmore	1	2, 3-14	8440	Drilling
	Melrose Pet. Co.	1	12, 3-14		Rig
Castaic	Lang, Ed. W., Rupy	1	7, 5-16	781	Drilling
	Pedro Pet. Co., Oates	1	24, 5-17	237	Drilling
	Worland, C. C., Jenkins-Owens	1	18, 5-16	1950	Idle
Chatsworth	Fernando Oils, Ltd., Holmes	1	18, 2-16		Grade
Inglewood	Vanguard Oil Co., L.A.I.	1	29, 2-14		Rig
Mint Canyon	Redwood Oil Co., Mitchell	2	22, 4-15	525	Idle
Newhall	British-American Oil Prod. Co., Edwina	1	14, 3-16	4068	Drilling
	Canyon Oil Co., Sanborn	1	6, 3-16		Rig
	Consolidated Pet. Co., Needham	4	13, 3-16	4398	Reaming
	Hazard Oil Co.	1	1, 3-16	2306	Idle
	Klingman, H. B., Happy Valley	1	3, 3-16	20	Tech. Spud.
	Mangrum and Page, Lintz	1	4, 3-15	852	Idle
Palos Verdes	Rolling Hills Pet.	1	27, 4-14	6580	Idle
San Fernando	Continental Oil Co., Howell	1	2, 2-16	4255	Drilling
Sunland	Casa Grande Oil Co., Lopez-Lundy	1	1, 2-15	2320	Idle
Torrance	Domingues Estate Co., Fee	1	2, 4-14	7168	Abandoned
West Whittier	West Whittier Oil Co., Pellissier	1	17, 2-11	4400	Cleaning out
	Orange County				
Buena Park	Tucker, H. M., Heath	1	34, 3-11		Rig
Costa Mesa	Thompson, Milton N., Banning	1	9, 6-10	5316	Drilling
Garden Grove	Bird & Chambers	1	31, 4-10		Rig
Stanton	United Oil Co., Schimming	1	25, 4-11		Rigging up

NORTHERN COUNTIES WILDCATS

County	Well	No.	Section	Depth	Status
Contra Costa	Tassajara Oil Corp.	1	9, 2s-1e	9300	Drilling
Monterey	Loma Grande Oil Co., Corey	1	23, 24s-10e		Rig
	Priest Valley Pet. Co., Greve	1	22, 20s-12e	2090	Drilling
Sacramento	Clay City Oil Corp.	1	25, 6n-7e		Location
	Amerada Pet. Corp., Carpenter	1	20, 4n-3e		Grade
	Superior Oil Co., Larsen	1	17, 3n-3e		Location
Solano	Richfield Oil Corp., Potrero Hills	2	5, 4n-1w	2882	Drilling
Sutter	Buttes Oilfields, Inc., McPherrin	6	1, 15n-1e	7690	No report 8⅝ Std. Cem.

the 2200 ft. tar zone. A test may be made of this horizon.

Two wells are planned for immediate drilling. In the tiny Five Points field, Clear View Oil Co. has derrick up for Williams No. 1 next to Island View No. 1, while at the northeast corner of Huntington and Toronto street, the Petroleum Co. has foundations for Wilson No. 6.

West Whittier Well Tests For Production

Very little is known about the well recently drilled by West Whittier Oil Co. on its Pellissier property aside from the fact that it is testing for production. Casing is perforated at approximately 3300 ft. and the well has alternately pumped and bailed, indicating possible sand trouble.

Tide Water Tests Deep Aliso Sands

Tide Water Associated Oil Co. is testing a new deep zone in Porter No. 12 at Aliso Canyon. Carried to 8200 ft., the hole was plugged back to 7550 ft. and casing cemented at 6910 ft. to make an open hole test. Although no official comment has been forthcoming from the company, it is understood that prospects for obtaining production from this horizon are rather poor and that the hole will probably be eventually plugged to the main zone.

Ninth Zone Test Due at Montebello

Though the many false starts in the past have produced no "deep test", circumstances at present indicate that one of the several now mentioned will surely carry on. It has been considered a certainty that the first well failing to find a good yield in the Eighth Zone would, if in a financial position to do so, seek a deeper sand. Exactly that seems now to have occurred in the case of Columbia Oil Co. which two weeks ago brought in Crawford No. 19 flowing 100 bbls. a day of 33 gravity clean oil. The gas flow was not so large as to greatly cut the oil output when curtailed in compliance with current allowables and the water content was less than 3.0% so the inference is that present redrilling operations are to seek a Ninth zone rather than to improve the Eighth zone yield.

The other indications that a deep test will soon materialize are the setting of 8⅝ in. casing in Herley-Kelley's Burke Comm. No. 3 instead of the customary 7 in. and the filing of a deepening notice by Mono Oil Co.

Sentiment of most operators, at first, was against developments of deeper horizons under present market conditions but now it is regarded as a ray of hope in that the discovery of a black oil zone without the excess gas of the Seventh-Eighth zones would free operators of the onus of strict control under the gas wastage laws.

Drill Pipe Stuck In Deep Hill Well

With only a few hundred feet more to go, Allied Petroleum Corp.'s deep Signal Hill well had the misfortune to freeze the drill pipe on bottom at 10,050 ft. Pipe has been recovered to a point well below 7000 ft. and it is probably only a matter of time until the entire fish is out.

The sticky streak was encountered in the three previously drilled deep wells on Signal Hill and in each case caused trouble, the most serious in the El Hondo at Spring and American where the hole was lost.

Another deep well may be drilled very soon as the Union Oil Co. is reported to have offset obligations coming due on its

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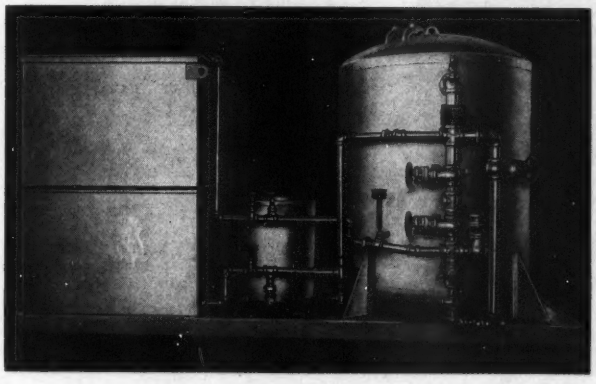

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RIVAL OF THE CLOUDS

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L. B. C. lease across 25th St. from Dormax Oil Co.'s recent completion.

Shallow zones are the goal of a score of wells now drilling, redrilling or plugging, most of them in the Pepper Drive area where the 3300 ft. Upper Wilbur zone affords initials of from 25 to 200 bbls. a day.

North Torrance Test Is Abandoned Barren

Dominguez Estate Co. abandoned its Fee No. 1 when no oil zones were found down to and including the schist. Located half a mile north of the city of Torrance and just west of Western Ave., the well is said to have topped the Del Amo sand at 6290 ft. and the basement at 7135 ft.

The well was drilled by the fee title owners to test a popular theory that another field exists paralleling Torrance and in line with El Segundo and Lawndale.

Rolling Hills Well Tests Wet Around Shoe

Rolling Hills Petroleum Co. Weston No. 1, located south of Highway No. 101 a mile west of Lomita, cleaned out to bottom and set a formation tester in the shoe-joint of 4¾ in. casing. With the entire interval open from which it is hoped to produce the well (6470 to 6580 ft.) recovery consisted of mud and unset cement. It is planned to re-cement the 4¾ in. pipe and make another test.

Costa Mesa Wildcat Reports Hard Shale

At 5300 ft. Milton N. Thompson reported his Costa Mesa wildcat, Banning No. 1, in very hard brown shale with occasional gas showings. Apparently too far to the north to encounter the shallow tar zone, found at Newport, the well is suffering from the same complaint as previous tries in the area; no sand.

West Dominguez Well Disappoints

Gus Pongratz Oil Co.'s attempt to extend Dominguez production west to Main St. in the Walnut Ave. area ended in at least temporary failure when the project was recently shut down at 7660 ft.

Hopes for adding another half mile to productive limits soared when an electric log at 6900 ft. was reported to indicate a structural difference of only 115 ft. between Pongratz' Grant No. 1 and Havenstrite's Larronde No. 1 on Avalon Blvd. Cores below that point, however, proved the preliminary "dope" to be in error when the Seventh Callender zone was identified at approximately 7135 ft., a difference of about 200 ft.

Although at present Grant No. 1 is standing idle, one or both of two possible steps may be taken in the immediate future; a test may be made of Seventh Callender sand streaks; which though thin were well saturated, or drilling may be resumed in search of deeper oil sands. Either procedure may result in the completion of a well as the sand streaks appear capable of producing if water can be excluded, and it is known that deeper productive sands exist within the main section of the field.

Newest west end well to spud is Seaport Oil Corp's Dasteel No. 1 at the southwest corner of Avalon and Victoria. The results obtained in this venture will have an important bearing on the future of this portion of the structure which is now something of a mystery.

Havenstrite's Larronde No. 2 is coring at 7000 ft. for the top of the Seventh Callender zone. The well is located about 400 ft. southwest of No. 1.

Union Oil Co. is completing Callender No. 75 in the interval 6895-7396 ft. and

ANNOUNCEMENT

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is preparing to spud No. 76. Both are located on the east side of Avalon Blvd.

At the southeast corner of the field, Morton & Elder have so far failed to get production in Stabler - Dominguez No. 2 which was deepened to 7430 ft. and plugged to 7100 ft.

Vesta Tests Terminal Sand

Vesta Petroleum Co. is attempting to complete its Palos Verdes No. 1 in what is claimed to be an equivalent of the Upper Terminal zone of the Wilmington field. Located at the southwest corner of Highway 101 and Figueroa St., hole was bottomed at 3800 ft. and plugged to 3710 ft. where a liner containing 150 ft. of perforations was landed. Swabbing recovered mud and some oil estimated to be about 20 gravity.

Continental Completes 2nd Flood Control Well

Continental Corp. completed its second flood control channel well in the Long Beach Harbor area flowing 660 bbls. a day from the Ranger zone. Located on the west bank at the intersection of Ocean Blvd., the hole was bottomed at 2979 ft. with 400 ft. of sand open. Gravity of the yield was slightly over 17.0.

Long Beach Oil Development Co. found the Lower Terminal zone wet in "Z" No. 8 and plugged to 2840 ft. where it will be finished in the Ranger zone. The upper section of the Terminal series is normally barren at this location, but it was a surprise to find water in the Lower Terminal.

Several new wells are planned for the northwest end of the Wilmington townlot field and are expected to get started as soon as re-zoning permits are obtained from the city.

State Asks Beach Bids

Further development of state owned tidelands at Huntington Beach is seen in the near future as the State Lands Commission has asked for bids to drill 14 wells under the ocean bottom between projections of 23rd St. and 16th St. In contrast to past policies, the State has specified the exact subsurface positions for each well, having worked out a system whereby no hole will be within 200 ft. of any existing well.

Another departure from established practice is that the State Lands Commission has acquired a surface drill site consisting of two city lots. The successful bidder must pay the sum of $8,461.00 from first production plus 2.0% royalty to the land owner, though it is not explained what the bonus is for. Surface sites for other wells apparently must be acquired independently.

All bids must be received in the State Lands Commission office at Los Angeles by March 29, 1940, and will be opened the following day.

Yorba Linda Well Production Rated

George Morgan's newly completed Yorba Linda well was under-rated in our last issue, according to Mr. Morgan himself. He states that natural flow is 80 bbls. per day and that on the beam it does 150 bbls. The cut of 1.8% is one of the cleanest in the whole field, while gravity of the oil is said to be upwards of 16. Located southeast of Shell's sensational core hole, bottom is at 2145 ft. and casing is set at 2000 ft.

Walt Elliott Heads State Stripper Well Assn.

D. W. (Walt) Elliott, independent oil man, has been elected president of the California Stripper Well Association.

★ Type for type, you can't beat the Flupaco "Improved Insert" Pump for dollar saving performance. ★ With its unique alloy steel one-piece barrel—a feature never before obtainable in equipment of this type—this pump has *fewer wearing parts...greater capacity...longer life...* and will cut a big slice from your pumping costs!

★ This new addition to the Flupaco line has a *one-piece* hardened and honed alloy steel barrel—made possible by a revolutionary honing process—that completely eliminates multiple liner sections, thus providing a number of important advantages over conventional liner-plus-jacket construction. First, *absolutely rigid alignment* is insured—an important feature that contributes to increased pump capacity and avoids misalignment when the pump is roughly handled. And . . . since the barrel is one solid piece end to end, there can be no fluid leakage at the joints—*because there are no joints!*

★ Here's another important "Improved Insert" feature—the solid barrel makes possible a *larger* I.D. with *reduced* O.D. This gives greater operating clearance to prevent binding and sanding up, and, at the same time, *increased capacity, size for size, over that of any other insert pump.* That means *more oil* for your pumping dollar—*less down time* for repairs! In addition, the special heat treatment of the solid barrel is deep enough to allow numerous rehone jobs—further prolonging the life of this pump.

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Coastal District

Union Oil Drills Santa Maria Outpost

Union Oil Co. is drilling its LeRoy No. 4 below 3750 ft. in the extreme west portion of the Santa Maria Valley field.

The company has made no move yet to drill its announced wildcat on the Pezzoni property but has indicated it would soon drill Cal-Coast No. 18 in the old Orcutt-Santa Maria field.

California Fuel Spuds Arroyo Grande Project

California Fuel Oil Co. has made a technical spud in its Elberta No. 3 in the Tiber-Arroyo Grande field of San Luis Obispo county. Two wells were drilled on the property by Elberta Oil Co. years ago, one of which is yet capable of producing about 20 bbls. a day.

Holly Drills Pismo Wildcat

Seeking Santa Margarita production at relatively shallow depth, Holly Oil Co. is drilling its Meherin No. 1 below 750 ft. Located in the outskirts of Pismo Beach, the well is the first to be drilled on a promising structure located between the city and the old Tiber-Arroyo Grande field to the north.

The Hall-Baker Co. of Los Angeles is drilling Meherin No. 1 on contract, utilizing an efficient type of portable rotary rig.

Republic Leases Hollister Rancho

Republic Petroleum Co. leased the Hollister ranch at Gaviota fifteen miles west of Capitan on the Santa Barbara coast. Non-commercial gas was found in several wells on the property. No development is planned at this time.

Bell & Sun-Bell Test at Lompoc

Two tests were recently made in west-end Lompoc wells. Alphonzo E. Bell Corp. plugged its old No. 1 and after perforating casing at intervals between 1830 and 2185 ft., conducted a series of tests which netted a little gas but no oil or water. The hole was then cleaned out to the old 2997 ft. bottom and put on the pump at the rate of 20 bbls. of oil and 200 bbls. of water.

Sun-Bell Drilling Co. re-entered its long idle westerly outpost and deepened to 3064 ft. where swabbing test recovered only oily mud.

Goleta Well Swabs Water

W. C. Hamilton swabbed water with a trace of oil and gas during a recent test of his wildcat well located east of the Miley Goleta play of 1927. The well, Hollister No. 1, was drilled to 1350 ft. where a combination string was landed and cemented through perforations at 1325 ft. Mr. Hamilton plans to re-cement and try again.

Drilling Progress Slow In Summerland Wildcat

Drilling only daylight tours, progress is very slow in Oil Group, Inc.'s Hyland No. 1 in the hills back of the town of Summerland. After standing idle for over a year, work was resumed two months ago but the hole is now only slightly below 1500 ft. and was last reported in very hard shale.

Recently, there have been several rumors that the old tideland field will again be drilled, but nothing is yet definite.

Ventura Avenue Completions Told

Flowing at the rate of 670 bbls. a day, British-American Oil Producing Co. recompleted its Hartman No. 9 in the Avenue sector of the Ventura Avenue field. Originally completed at 7940 ft. as a 450 bbls. well, the hole was deepened to 8764 ft.

Calif.-Alliance Pet. Co. is going ahead with Hartman Ranch No. 1 at 8350 ft. and plan to complete the "57" zone. The company's Schmidt No. 1 is drilling at 1650 ft.

Lloyd Corp. is attempting to make a steady producer of No. 4 at 10,135 ft. in the easterly section and is rigging up to drill No. 5.

Tide Water Associated Oil Co. finished Lloyd No. 122 at 9465 ft. flowing 1540 bbls. a day and Shell Oil Co. brought in Taylor No. 112 as one of the biggest wells in the state; initial gauges running 4500 bbls. a day through a 2 in. flow nipple.

English Testing Deepened Well

Jack English is making a bailing test in his Lankershim No. 2 after deepening to 2812 ft. From all appearances

COASTAL COUNTIES WILDCATS

Area	Well	No.	Section	Depth	Status
Santa Barbara County					
Betteravia	Union Oil Co., Pezzoni	1	33, 10-35		Location
Carreaga	Arnold Oil Corp., Arnold-Apache	2	8, 8-33	6825	Fishing
Carpinteria	Sunset Oil Co.	1	32, 4-25	3413	Idle
Goleta	Hamilton, W. C., Hollister	1	3, 4-29	1345	Swabbing
Lompoc	Alphonzo E. Bell Corp.	1	33, 8-34	2997	Pumping
	Sun-Bell Drilling Co.	1	28, 8-34	3064	Idle
Los Olivos	United Western Oil Co.	1	15, 7-30	4403	Abandoning
Summerland	Oil Group, Inc., Hyland	1	16, 4-26	1525	Reaming
San Luis Obispo County					
Arroyo Grande	California Fuel Oil Co., Elberta	3	5, 32-13	50	Tech. spud—Idle
	Holly Oil Co., Meherin	1	7, 32-13	475	Drilling
Elk Horn	Calif. Pet. Prod., Irons	1	19, 10-24	2527	Swabbing
	Burrhus, V. E.	1	8, 32-22	60	Idle
	Burrhus, V. E., Haberkern	1	21, 32-22	2563	Drilling
	Newton Dev. Co.	1	3, 32-21		Rig
Huasna	Gilmore Oil Co., Huasna Comm.	1	11, 32-14		Grade
Ventura County					
Conejo	Sulphur Springs Oil Co., Janss	1	33, 2-19	2488	Drilling
Moorpark	Shafer, Frank, et. al.	1	30, 3-19	736	Idle
Piru	Sannes, K. Sande, Janes	1	21, 5-18		Grading roads
Santa Susana	K. C. Oil Co., Marr	1	32, 3-17	1014	Idle
Sespe	English, J. A., Lankershim	2	13, 4-19	2812	Bailing
	G. E. Development Co.	7	13, 4-19	488	Drilling
	Merchants Pet. Co., Cochrane	8	1, 4-20	1910	Cleaning out
	Hall, Henry Lynn, Tar Creek	1	35, 5-19	1275	Idle
	Renard Oil Co.	1	6, 4-19	1100	Idle
	Rio Hondo Oil Co., Cosby	1	14, 4-19	1157	Reaming
Simi	Levesque, G. M., Robertson	1	17, 2-18	2250	Cleaning out
	Ohio Oil Co., Vail	1	10, 2-19	4240	Drilling
South Mountain	Albatross Oil Co., Schiefferle	1	17, 3-20		Rig
	Mallon, Felix, Richardson	1	14, 3-21		Rig

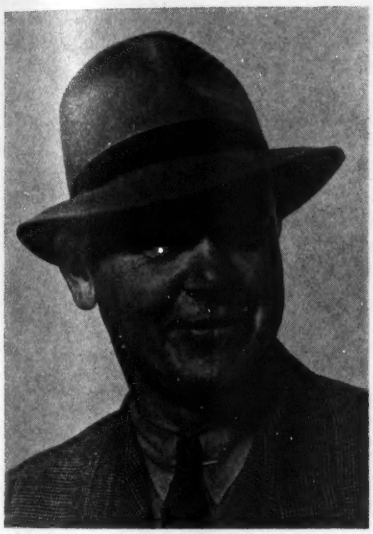
the well should make a fair pumper after the sanding tendency of the hole has been overcome. Location of the project is in Hopper Canyon, sec. 13-4-9.

In the same section as English's operation, G. E. Development Co. is drilling well No. 7 on the old Hadley property. Depth is a little below 500 ft.

Rio Hondo Oil Co., which recently acquired the Cosby lease in sec. 14-4-9, is deepening Well No. 1 below 1160 ft.

Standard Appoints Tuttle at Los Angeles

C. H. Tuttle, well known and widely acquainted in Southern California but more recently superintendent of the Purchase and Stores Division of the Standard Oil Co. of Texas, at Houston, as-



C. H. Tuttle

sumed, on Mar. 16, 1940, the duties of district purchasing agent for the Standard Oil Co. of California at Los Angeles. Mr. Tuttle's experience in the oil industry, which began in procurement service, dates from Feb. 19, 1919 when he served with the Wallace Refineries and, somewhat later, with the Pacific Gasoline Co., thence in the capacities of Purchasing Agent and Assistant General Storekeeper for the Standard Gasoline Co. and the Standard Oil Co. of California, respectively. Mr. Tuttle's many friends will be happy to greet him upon his return to a position on the Pacific Coast.

Mr. W. C. Brooks, who resigned from the position of district purchasing agent at Los Angeles on March 15, has served in many capacities in the Standard Oil Company. Experience in the Producing Department of the Standard Oil Co. of California preceded his entrance into the purchasing service and during the last 10 years he has successfully held executive positions in Seattle, San Francisco and Los Angeles. 'Bill' is the son of the late A. B. Brooks, formerly director of the Standard Oil Co. of California.

Bill Brooks Joins Petroleum Equipment Co.

An announcement has just been made by Roy Somers, vice president of Petroleum Equipment Co., now in its

Wm. C. Brooks

eighteenth year of activity, of the appointment to their organization of Wm. C. (Bill) Brooks.

Bill Brooks needs no introduction to the Western oil industry; he was born in the oil business, and followed in his father's footsteps by joining with the Standard Oil Co. of California on his return from services in the World War, having previously attended the University of California at Berkeley.

Step by step he worked his way up from roustabout and driller in the oil fields to his recent position of District Purchasing Agent at Los Angeles for the Standard Oil Co. of California.

Bill's many friends on both sides of the desk will be happy to learn of his new activities, and to wish him every success in the supply end of the petroleum industry.

Oscar M. Havekotte Elected President of Ideco Group

Election of Oscar M. Havekotte of Pittsburgh as president and general manager of International-Stacey Corp. has been announced by Col. Carmi A. Thompson, Cleveland, chairman of the board of directors of the corporation.

Mr. Havekotte succeeds the late Lewis J. Brown, former president of the corpo-

ration, who died Jan. 11, 1940. He assumed his new office Feb. 19.

For the past eight years Mr. Havekotte has been a director and a member of the executive committee of International-Stacey Corp. He has spent considerable time in Columbus in connection with those duties, and is therefore well prepared for his new task.

A native of Pittsburgh, Mr. Havekotte attended the public schools in that city, and later the University of Pittsburgh. He became associated with the old Carnegie Steel Co., and has been with that company, and its successor, the Carnegie-Illinois Steel Corp., ever since, having been assistant treasurer of the latter company.

International-Stacey Corp. has three operating divisions—International Derrick & Equipment Division, Stacey Brothers Gas Construction Co. and Roots-Connersville Blower Corp.

International Derrick & Equipment Division operates manufacturing plants at Columbus, Marietta and Delaware, Ohio, Los Angeles, Calif., and Beaumont, Texas. This division is engaged in the manufacture of oil field drilling and pumping equipment, standard steel buildings, electric transmission structures, airport equipment and miscellaneous galvanized steel structures.

Stacey Brothers Gas Construction Co. is located at Cincinnati, Ohio. This company specializes in telescopic, pressure and Klonne dry seal gas holders, scrubbers and purifiers.

Roots-Connersville Blower Corp. operates two plants at Connersville, Indiana, and manufactures rotary positive and centrifugal blowers, pumps, meters and exhausters.

K. Sande Sennes to Drill Wildcat North of Piru

K. Sande Sennes is building roads preparatory to drilling a wildcat well three miles north of the old Piru field in sec. 21-5-8, Ventura county.

LAUGH THIS OFF

A local petroleum organization had been holding a series of sales meetings, and the district manager in charge of the caucus was deeply annoyed by the lack of interest. He delegated one of the lads to make a count of the sleepers and report back, but the delegate only got as far as fifty when he fell asleep himself.

Proving **Bob Roberts'** oft repeated contention that what the industry needs is more orders from customers and fewer from sales managers.

Now comes **Joe Swaton** reciting an interesting story of two lads who were boasting of their genealogy. (Well! Look it up for yourself. That's the very word Joe used.) Says the first one, "I come from one of the wealthiest families in Virginia." "That's nothin'," says the other, "I come from one of the oiliest families in Oklahoma."

And **Charlie Schneider** claims that we may deplore American city politics all we like, but we must admit that the streets are on the up and up.

Jim Sinclair, incidentally, says it's a fact that in the old days a certain automobile manufacturer designated one of his models as the D touring car.

O. C. Field tells us that a few nights ago he met a couple of rousties weaving unsteadily through the darkness and singing raucously, "Oh we won't be home until morning." The boys were a little out in their prediction, for next morning the Judge decided they wouldn't be home for thirty days.

Home being that seldom used building which stands on the same lot as the garage.

Charlie Tabor, on the same subject, used to say, "It's sure swell to have some place to wish you were when you're away."

Charlie's golf, by the way, is improving, but his score is still much higher above par than his stocks.

Wherewith **Dub Russell** chips in with his eight iron to define a golf course as "a place where you try to break 70 on the links and 90 on the way home."

Now we diverge widely to repeat **Al Gore's** latest: Two rousties were discussing a hard boiled foreman. Says the short stout one, "Where was he born?" Replies the tall thin one, "He wasn't born. He was quarried."

"Well why don't you tell him what you think of him," continued the s.s.o. "How can I?" asks the t.t.o. "The coward has no telephone."

And just after the service station boy had paid his doctor's bill, the M.D. limped into the station with a tire that needed fixing. "Hi!" he yelled to his assistant, "That's a severe case of flatulency of the perimeter. Charge him five bucks."

It seems strange, incidentally, that the inventor of the flat tire has never been brought to justice.

At this stage **Ed Curtis** defines an American as a guy who yells for the government to balance the budget, and then beans you for five bucks till payday.

He is also the same bimbo who spends two hours buying life insurance, and two seconds going through a grade crossing.

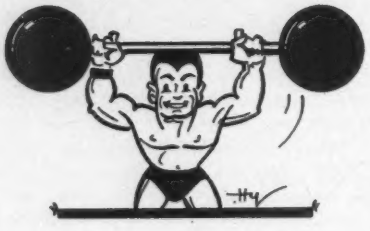
And now that we are getting a little sparse on top, we find consolation in the thought that a few years from now all we will have to do when company comes is to straighten our tie.

Jess McClocklin, the erstwhile vaudevillian always buys Hillbilly records, because they last longer. In other words when they are worn out you can't tell the difference.

Which brings us to the end of another fruitless effort, as the boy said when the cop caught him going over the fence into the melon patch.

Remember there is this to be said in favor of a woman who knits and doesn't smoke—when she drops one it doesn't burn a hole in the carpet.

STRENGTH



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Lincoln Foundation Awards Promote Welding Progress

A two and one-half-year program of scientific study, which will culminate in payment of $200,000 in awards, and which should produce widespread social and industrial benefits, has been announced by The James F. Lincoln Arc Welding Foundation.

The 458 awards are established for studies bringing out benefits of a social, economic or commercial nature, such as reduction or elimination of hazards to safety and health, greater availability of comforts and conveniences through reduced prices, greater utility and durability of machines and structures as well as industrial benefits such as cost savings and other advantages in manufacture, fabrication or construction.

Studies encouraged with a view to creating such large-scale benefits will concern machines, products and structures of all types including: automobiles, trucks, buses, airplanes, locomotives, freight and passenger cars, street cars, ships and boats of all types, buildings, bridges, houses, furniture, heating and air conditioning equipment, electric refrigerators, farming machinery, road-building equipment, as well as industrial machines and products of every conceivable kind.

Awards, ranging from $13,700 to $100, and embracing the 12 classifications and 46 divisions into which the industrial field has been divided for purposes of participation, (See accompanying table of Classifications and Divisions), consist of the following:

The 1st Grand Award, which will be paid for the best progress report submitted, with total $13,700.

3 Main Program Awards: 1st, 2nd and 3rd awards of $10,000, $7,500 and $5,000.

48 Classificational Awards: 1st, 2nd, 3rd and 4th awards of $3,000, $2,000, $1,000 and $800, respectively, in each of 12 classifications.

184 Divisional Awards: 1st, 2nd, 3rd and 4th awards of $700, $500, $250 and $150, respectively in each of 46 divisions.

223 Honorable Mention Awards: 223 awards of $100 each for papers which do not share in any other award but which deserve honorable mention.

Innumerable subjects are suitable for study. The 12 Classifications and 46 Divisions of participation cover every conceivable machine, building, structure or product made of ferrous or non-ferrous metal.

Unlimited Opportunities for Participation

Participation in the Progress Program is open to everyone who plays any part in actually bringing about progress in the executive, design, fabrication, manufacture, construction or maintenance phase of industrial product or structure development. Authors of studies may be executives, engineers, designers, architects, draftsmen, plant superintendents, production managers, foremen, proprietors of automotive garages or service stations, owners and operators of fabricating and repair shops, or any other person engaged in the various phases previously mentioned. One author, or a group of authors, may submit a study, any company or concern may submit more than one study provided each is on a different subject and is prepared and submitted by a different author or group of authors.

Participants in the Progress Program have 2½ years—from January 1, 1940 to June 1, 1942—to pursue their studies and prepare a report summarizing them. All those planning to qualify should record, for future reference, data in the form of designs, charts, photos, notes and other pertinent information on operations as of December 31, 1939.

All inquiries concerning the $200,000 Industrial Progress Award Program should be addressed: Secretary, The James F. Lincoln Arc Welding Foundation, Cleveland, Ohio.

Classifications	Divisions
A Automotive	A-1 Engines or Engine Accessories; A-2 Bodies or Body Accessories; A-3 Frames or Frame Accessories; A-4 Trailers.
B Aircraft	B-1 Engines or Engine Accessories; B-2 Fuselages or Fuselage Accessories.
C Railroad	C-1 Locomotives; C-2 Freight Cars; C-3 Passenger Cars; C-4 Locomotive and Car Parts.
D Watercraft	D-1 Commercial; D-2 Pleasure.
E Structural	E-1 Buildings and Similar Structures; E-2 Bridges; E-3 Houses; E-4 Miscellaneous.
F Furniture and Fixtures	F-1 House; F-2 Office.
G Commercial Welding	G-1 Commercial Welders or Job Shops; G-2 Garages or Service Stations.
H Containers	H-1 Contents Stationary (Tanks, etc.); H-2 Contents Moving (Pipe Lines, etc.).
I Welderies	I-1 Commercial Welderies; I-2 Plant Welderies.
J Functional Machinery	J-1 Metal Cutting; J-2 Metal Forming; J-3 Electrical; J-4 Prime Movers; J-5 Conveying; J-6 Pumps and Compressors; J-7 Business; J-8 Functional Machinery not otherwise classified; J-9 Jigs and Fixtures; J-10 Parts of Functional Machinery.
K Industry Machinery	K-1 Processing; K-2 Construction; K-3 Petroleum; K-4 Steel Making; K-5 Farming; K-6 Household; K-7 Food Making; K-8 Textile and Clothing; K-9 Printing; K-10 Industry Machinery not otherwise classified.
L Maintenance	L-1 Machinery and Mechanical Equipment, including truck, bus and taxi fleets; L-2 Structures and other applications for arc welding in Maintenance such as pipe lines, railroad tracks, bridge strengthening, etc., not covered under L-1.

Representing Important Steel Product Lines

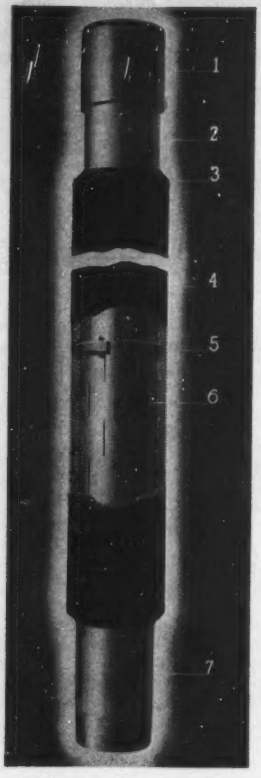
Williams & Kilsby, a partnership, with offices in Standard Oil Building, Los Angeles, Calif., has been formed by W. Woodward Williams, who recently resigned as general manager of the Babcock & Wilcox Tube Co., and Perry Kilsby, who has acted as sales representative on the West Coast for several companies manufacturing various steel products. The partnership will represent the Babcock & Wilcox Tube Co. of Beaver Falls, Penn., manufacturing seamless tubes in all leading grades and classifications; the Sivyer Steel Casting Co. of Milwaukee, Wis., manufacturing return bends, headers and tube supports in all grades; and Wm. F. Klemp Co. of Chicago, Ill., manufacturing steel gratings and flooring, including Acme Heavy Duty Floor Steel. In addition, they will represent exclusively—on the West Coast—Pittsburgh Crucible Steel Co. with general offices at Pittsburgh and plant at Midland, Penn., on their rolled products which are carbon and alloy grades of billets, blooms and bars, both hot finished and cold drawn. Pittsburgh Crucible Steel Co., though a wholly owned subsidiary of Crucible Steel Co. of America, manufactures and sells under its own management tonnage specialties mainly in the S.A.E. carbon and alloy grades as distinct from the parent company, who have a commanding position on much higher-priced grades such as tool and high speed steels.

This partnership has the advantage of Mr. Kilsby's successful sales experience on the West Coast—first as Western sales manager for the Babcock & Wilcox Tube Co., and more recently as sales representative for the several important companies mentioned above—and Mr. Williams' sales and executive experience with the Pittsburgh Crucible Steel Co. and with the Babcock & Wilcox Tube Co. With the former he was general manager of Sales and later, vice president in charge of sales from January 1923 to January 1929; and with the latter (after several years in sales counsellor work for the Babcock & Wilcox Co. and other companies in the steel business) as general sales manager from 1932 to 1936, and then general manager until his recent resignation to form this partnership.

It is believed that this combination of the experience and wide personal contacts of two men who have been long and favorably known throughout the industry, will provide an unusually effective type of sales service to the manufacturers whom the new partnership will represent.

Nelson Pioneers Prepacked Liners

The use of pre-packed gravel liners for the control of sand entering into the oil string was pioneered, developed and proven by J. B. Nelson in the Los Angeles Basin Fields, Calif. They are used



in new wells where the liner is set in the open hole and, in wells where the casing has been gun perforated. The illustration outlines the principle of this liner.

1. The casing coupling. 2. The elevator or clamp space. 3. The steel end ring upon each section of the liner enabling them to slide freely on the specified sized casing and there be welded. 4. Outer covering is of hand woven spring steel wire, so constructed to give maximum resistance to deformation or collapse; mesh and wire size being variable so a wide range of gravel sizes can be used to meet any condition; the standard mesh covering normal operations. Perforated plate to specifications is also available. 5. Every eight feet a spacer for gravel thickness pack control. 6. Perforations specified or made depending upon the conditions. 7. Tong space.

The company supplies these liners for use on new or used casing. With new casing, units are built to specification and delivered with spacing of units, size of gravel and size and spacing of perforations necessary to meet the prevailing conditions. The same features of service apply where old casing is utilized.

It is claimed that field operations have proven the design of the proper liner to cover any sand section of any well have materially aided production, lessened wear and tear on pump life and increased the efficiency of all around recovery. For information write direct to the manufacturer; J. B. Nelson, 3035 Cherry Avenue, Long Beach, Calif.

Morris Smith Enters Foreign Sales Work

Morris Smith, son of Walter G. L. Smith, president of E. M. Smith Co. of Los Angeles, Calif., will transfer his activities to the export department of the concern in the near future when he leaves on a business trip of several months duration to various oil districts throughout South America.

For the past several years, Morris has been engaged in sales and demonstration work for the company throughout the Pacific Coast, Mid-Continent and Gulf Coast oil fields. Previous to his sales activities he worked in various departments of the factory where he obtained first hand knowledge regarding all the products manufactured by the company. Thus he is well qualified through this knowledge and experience for his new duties in foreign countries.

Mr. Smith will make the trip to and from the southern continent via Pan-American Airways. His plans include personal contacts with oil company executives and field men in practically every active oil field of Colombia, Peru, Argentina, Brazil, Trinidad and Venezuela. He expects to return to the states about mid-summer.

Regan Designs New Narrow Traveling Block

A new traveling block for 400 and 500-ton capacities has been developed by Regan Forge & Engineering Co. It is a narrow block with 5 or 6 sheaves and is completely enclosed with streamlined safety guards. It offers a maximum of safety to the derrick man who exerts less energy in swinging the block to bring the elevators into position for handling drill pipe. For 5 sheaves, the width is only 23", and for 6 sheaves 26½". Height

of the block is 125". The sheaves are of special alloy cast steel with grooves ground to A.P.I. specifications. Rims are machined parallel and the spokes and hubs of all sheaves are subjected to impact test to eliminate those having excessive shrink stresses. The sheaves are statically balanced. Massive anti-friction roller bearings handle the tonnage with a margin of safety of 3 to 1. Inner plates are of ASTM Class A 95-36 steel castings, with sufficient ribs disposed to relieve casting strains. Bearings are of SAE 3135 forged steel carburized and heat-treated. Main connecting pins are of SAE 1030 rolled steel machined to maintain perfect alignment of bearings. Due to the narrowness of the block, it can be operated close to large stacks of drill pipe. It is known as the Type H 104" Narrow Traveling Block, and is not to be confused with the Type G Regan 121" Block, which has been on the market for the past three years. Full details may be obtained by addressing Regan Forge & Engineering Co., P. O. Box 150, San Pedro, California.

Trans-Oceanic Redrilling No. 5

Trans-Oceanic Oil Co. is redrilling its No. 5, most southerly well in its line extending from Cliff Drive to the bluff overlooking the sea at Santa Barbara Mesa. Carried originally below 2000 ft., the well failed to find production in Vaqueros topped at 1635 ft. and was plugged back to 250 ft. from which point it is being directionally redrilled in hopes of locating a productive spot.

Governor L. C. Phillips to be Speaker at California A. P. I. Meeting, March 19

Governor Leon C. Phillips of Oklahoma has accepted an invitation to be the guest speaker at the evening session of the spring meeting of the American Petroleum Institute, Pacific Coast district, Division of Production, to be held in the Biltmore Hotel, Los Angeles, Calif., March 19. Governor Olson of California in behalf of the Pacific Coast district of the A. P. I. has extended a cordial invitation to the Governor of the sister State of Oklahoma. Governor Phillips will discuss the Trend of Public Interest in the Petroleum Industry. Selection of Governor Phillips is a popular one and it is believed that attendance at the Spring meeting will greatly exceed all previous meetings. The program committee instead of selecting a large number of papers has chosen 6 topics to be covered and will throw open the meeting for unlimited discussion. It has been decided that presentation of too many subjects would have a tendency to reduce discussion of papers and thus the Program Committee has adopted a policy that will meet with general approval and one which other associations could well follow. Governor Phillips' address will be broadcast from 9:15 to 9:45 P.M. over the NBC blue network which will include 26 stations west of Albuquerque as well as two Texas stations.

The program to be presented at the A.P.I. Spring meeting is as Follows:

Morning Session:

(1) "Practical Utilization of Rate-of-Penetration Drilling Data"
by C. A. Yeatman
Shell Oil Company, Inc.
Los Angeles, California

(2) "Oil and Cementing Factors Influencing Bond between Cement and Formation"
by P. H. Jones and Denis Berdine
Union Oil Company of California
Wilmington, California.

(3) "Applications of Chemicals in the Petroleum Industry"
By W. W. Robinson, Jr.
The Texas Company
Long Beach, California

Afternoon Session:

(4) "Pioneering of Rotary Methods of Drilling in California"
By L. B. Little
Standard Oil Co. of California
Los Angeles, California

(5) "Trends in Allowables in California"
By L. L. Aubert
Bankline Oil Company
Los Angeles, California

(6) "Bottom-Hole Control of Gas Production"
By E. W. McAllister
Kettleman North Dome Assn.
Avenal, California.

Howard C. Pyle of the Union Oil Co. is chairman of the Pacific Coast District, Division of Production of the A. P. I. R. N. McMaster of Chanslor-Canfield Midway Oil Co. is vice-chairman for Los Angeles Basin; H. C. Stone of The Texas Co. is vice-chairman for the Coastal Area and A. C. Terman of Standard Oil Co. is vice-chairman for the San Joaquin Valley. W. G. Corey is treasurer of this section and D. S. Kilgour is secretary.

3000 Oil Geologists Will Meet in Chicago

An army of geologists and other technical experts identified with the continuous search for more and more oil will gather in Chicago, nearly 3000 strong, on April 10, 11 and 12, to attend the Silver Anniversary meeting of the American Association of Petroleum Geologists.

Members of the association, geology professors, and independent delegates from nearly every state in the union, and from a score of foreign countries will assemble to hear what the headliners in the oil game have to say about recent findings in oil exploration and development, and to acquire new information that geologists have secured during the past year regarding petroleum possibilities and geologic conditions of the rock strata below the earth's surface.

Many geologists will be attracted by the opportunity of gaining first hand knowledge of the situation in Illinois—the current "hot spot" oil field region and the scene of the most active drilling campaign of recent years. Wells are now being drilled in Illinois at the rate of approximately 300 per month, and 56 separate oil pools have been discovered and developed in the southern part of the state within the last three years.

Oil production in Illinois has risen steadily to more than 11,000,000 barrels per month, giving it fourth place among the oil-producing states of the nation at the present time. The "big four" include Texas, California, Oklahoma, and Illinois.

The three-day meeting at Chicago will feature "new ideas in petroleum exploration," with technical papers by leading research geologists, and displays of new laboratory and field apparatus, explosives, chemicals, maps and other materials that enter into the complicated picture of locating and developing modern oil fields.

The Chicago gathering of the association will be the first meeting of its kind in Illinois history, in spite of the fact that Illinois has been an oil-producing state for 35 years. Previous meetings have all been held in Texas, Oklahoma, Louisiana, Kansas and California.

Richfield Golf Tournament Gets Under Way at Potrero

It was the reenactment of Richfield Oil Corp's. annual Golf Tournament, recently, when Richfield employees literally took over the Potrero Country Club to vie with one another for more than a score of rich trophies.

Truck drivers foursomed with executives—department executives paired with elevator operators—all in a spirit of good sportsmanship—and with a list of prizes to be contended for that would make the Los Angeles Open look upon with eyes of envy.

From the president's Perpetual Trophy, for low net; the Hixson & O'Donnell, low gross trophy, and the California Oil World Perpetual, to be played for on the double flight, down to the bronze miniatures, and a group of other interesting prizes, more than a hundred of Richfield employes played from seven o'clock in the morning until seven o'clock in the evening, in a spirit of good fellowship in pelting the pill over the bunkers.

The Richfield tournament will continue for the remainder of the year with a ladies invitational and buffet soon to be held.

Activities and the promotion of the affair were in the hands of Kenneth Cook, Chief Scout, Earl Neitzel of the Southern Division, M. M. Ashton, C. E. Taylor, G. C. Noble of the Marketing Department, M. R. Gross, Treasurer.

Among the winners are included Jack Woods and R. E. Paradise.

April

8-12—American Chemical Society, Cincinnati, O.

9-11—Society of Exploration Geophysicists, Annual Meeting, Stevens Hotel, Chicago, Ill.

10-12—American Association of Petroleum Geologists, Stevens Hotel, Chicago, Ill.

Strict Adherence to Quotas Held Vital to Petroleum Business Stability

In view of the healthy support given curtailment activities by California oil producers in the face of price disturbances, the industry in this state is in a comparatively strong position to deal with other current disquieting factors. This conclusion is voiced by Lawrence Vander Leck, chairman, Central Committee of California Oil Producers, the organization charged with the responsibility of administering the California voluntary program.

There has been no slackening in curtailment of crude oil production under the voluntary proration program in recent weeks, which continues to hold the progress attained in earlier months when restrictions were tightened, he pointed out. This is true in the face of the reduction in crude oil postings by Standard Oil Company of California, effective the beginning of last month, which, however, most other companies have not as yet followed. The price cut was attributed by Standard to a marketing situation wholly unrelated to the California production problem.

There was fear in some industry quarters that unfavorable repercussions might soon result from the price reduction. Curtailment officials now, however, point out that producers in the industry realize that continued adherence to the quotas is vital to their economic well being and in the interest of conservation. While the lower crude postings are taking a heavy slice out of operating revenues, they have continued strict adherence to proration schedules.

At present there is a differential of from four to fifteen cents in posted crude prices being paid over the state for the same quality oil by the purchasing units due to the fact that all of the companies did not adhere to Standard's postings. After the reductions, four marketers restored bunker fuel selling prices to 90 cents a barrel at San Pedro, as contrasted to the 75 cent price posted in January. This price cut in bunker fuel was the forerunner to the later reduction in crude prices.

In view of the curtailment picture that has prevailed since the appearance of lower crude price postings, resentment has been voiced in industry executive quarters to continued "sniping" at alleged wasteful and extravagant producing operation in California by proponents of the Cole Bill being sponsored by Administration spokesmen in Washington. Examination of the state's record fails to bear out charges advanced by witnesses appearing for the measure, they declare, and a great deal of mis-information is being broadcast.

In refutation of these charges, production statistics for February are cited which show average output for that month of 606,000 barrels daily, a reduction of 2,700 barrels daily from the January average this year and a drop of 11,900 barrels daily from the average obtained during February last year. These statistics also show that February's rate of oil flow in California was the lowest for any month since last June when the average was 604,000 barrels daily, which was the lowest figure for any month in several years.

February's curtailment showing was made despite the fact that two large producers were forced to exceed their quotas by competitive conditions, since rectified, and in the face of a 5,000 barrels daily advance in takings at Kettleman Hills which was waived during January and will be cut back again in March.

Production data for the first few days of March points to a further cut of about 2,300 barrels daily in average output when compared with the same February period. So far this month all fields have been yielding approximately 611,800 barrels daily. In listing this figure it should be recalled that in many fields over the state wells are produced at capacity during the early part of the month and as soon as allotments are in the tanks are shut in for the balance of the period.

Problems in curtailment discussions currently being given close scrutiny by the industry include the downward trend of offshore takings by Japan, the supplementing of California cargoes with Mexican and South American crudes, and a reversal of the downward trend of petroleum stocks within recent weeks for the first time in nearly a year.

Average February takings by Japan approximated 51,200 barrels daily, whereas the average flow to this market for the full year 1939 was 77,000 barrels daily.

Most recent inventory information published by the American Petroleum Institute shows total supplies of all petroleum products in storage in the Pacific Coast territory, as at the end of January, at 151,564,542 barrels. This represents a reduction of 10,532,152 barrels from the total on hand at the close of April last year when the downward curve of stocks began. Private compilations covering the period since the close of January show that inventory withdrawals have ceased and that oil has since been running into storage in nominal quantities.

Normal operations embrace additions to storage during the period of low winter consumption and withdrawals during the spring and summer motoring seasons. The industry entered last winter with storage far above normal working requirements and some 30,000,000 barrels of excessive inventories have been carried over.

Apex, Royalty Service Test Rosecrans Wells

Two wells are attempting to complete in the southerly section of Rosecrans: Apex Petroleum Corp.'s Hatfield No. 1 and Royalty Service Corp.'s Riverside Cement Co. No. 1. Both are swabbing after gun-perforating casing which had been cemented on bottoms respectively, 9000 ft. and 9150 ft. Location of the two is west of Barnsdall's Darling Comm. No. 1 which is flowing about 300 bbls. a day cutting 25.0%.

In the southwesterly section of the field, St. Anthony Oil Corp. is completing Gordon No. 1 after bottoming at 7927 ft. and cementing casing at 7663 ft. Adjoining the Gordon lease, Union Oil Co. has Rosecrans No. 38 in process of completion and is setting casing in No. 39.

Three wells are scheduled for an early start at the intersection of Compton Blvd. and San Pedro St. Don Angle is planning to drill the Shoreline location while Paragon Oil Co. and Midfield Oil Co. are expected to commence soon.

Jack C. Clarke Vanguard Treasurer

Consistently rising in the ranks of the Vanguard Oil Co., Jack C. Clarke, veteran California oil man, was elected to the position of treasurer at the last annual board of directors meeting.

After 15 years with the Richfield Oil Corp. as Signal Hill division accountant, Mr. Clarke came to the company two years ago as comptroller. A year later he was elected to the board of directors and appointed assistant treasurer.

According to President Cliff Baker, Mr. Clarke owes his progress only to his own industry and merit. At the same time Mr. Baker regretfully announces that S. R. Coleman, associated with the company since 1934, is relinquishing a part of his duties, but will remain as nominal secretary of the company.

Vanguard Oil Co., operators of extensive Valley holdings, are at present preparing to spud well No. 1 on Los Angeles Investment Company land near Inglewood.

You are reading the Pacific Coast oil men's home paper.

Richfield Salesmen Meet in Los Angeles

A joint meeting of Richfield Oil Corp's. Metropolitan Area, which is Assistant Manager George Miller's territory, and the Outside Territory, which is Assistant Manager W. I. Williams' territory, was held in the Biltmore Hotel recently. Approximately 225 agents, salesmen, merchandising representatives, and branch managers attended this meeting.

Luncheon was served in the Biltmore Bowl with Division Manager W. G. King as Toastmaster. Due to a Sales Contest which covered the last six months of 1939 between George Miller and W. I. Williams and which ended in a tie, W. G. King was presented with a large bow tie (Mr. King had entered a wager that the contest would not end in a tie), on one side of the tie was an enlarged head picture of George Miller and on the opposite side a picture of W. I. Williams.

Two gold watches engraved as follows: "Presented to D. L. Herbert for Sales Efficiency, Richfield Oil Corp., 1939" and "Presented to W. L. Gallaher for Sales Efficiency, Richfield Oil Corp., 1939." These watches were presented to these two gentlemen who were winners of the Agents' and Salesmen's Contest for the last six months of 1939.

Eagle Pins set with diamonds were awarded to J. T. Dawson and C. E. Gooden of the Metropolitan Area for achieving membership in the Eagle Grease Club for twelve consecutive months.

H. L. Whiston at 9500 ft. on Test at Tassajara

Herb Whiston has a right to feel quite proud of his company's drilling operations near Livermore, California. They are drilling at approximately 9500 feet with a Wilson "Giant" Model Power Rig, which H & B Sales Co. Ltd., state is rated only a 6000 foot rig. However they have progressed to this point without a delay and both Herb Whiston and his superintendent "Slim" Goodrich are as happy as a couple of kids over the accomplishment, and without a Hydromatic brake on the rig either. They have encountered a lot of hard drilling and have taken a good many cores.

Oil Exploration Tools Feature 1940 Tulsa Show

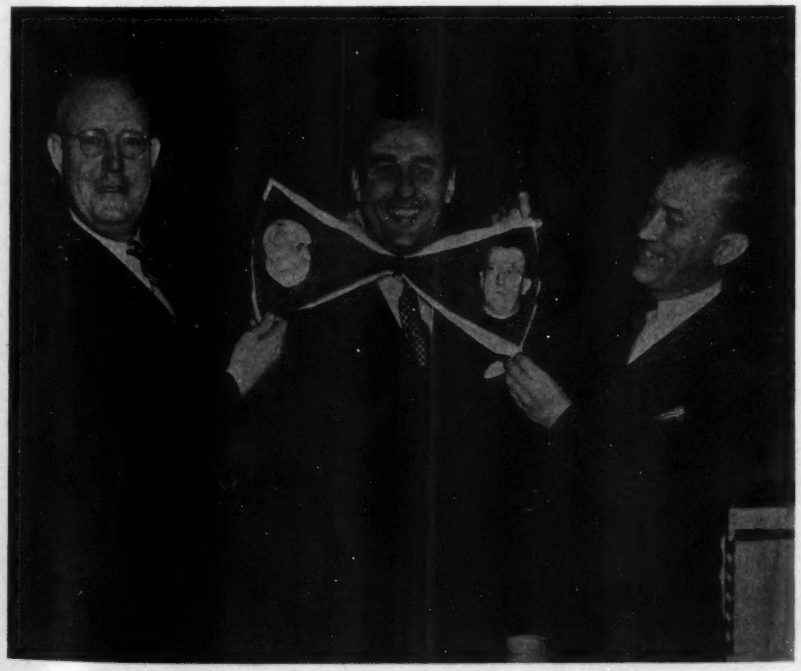
Special exhibits showing the progress of oil exploration equipment will be prepared by a special Exploration Committee appointed by W. G. Skelly, president of the May 18 to 25, 1940 International Petroleum Exposition to be held in Tulsa, Okla.

"The Oil Exposition recognizes the increase in exploration activity in recent months," Skelly stated. "This Committee is planned to arrange for displays of the latest equipment for the finding and developing of oil reserves."

The entire personnel of the committee includes: W. A. J. M. Van der Gracht, Chief Superintendent of Mines, Staatstoezicht op de Mynen, Heerlen, Netherlands; Theodore A. Link, Western Canada Geologist, Imperial Oil, Ltd., Calgary, Alberta, Canada; Arthur Wade, Chairman Oil Advisory Committee, Canberra, F.C.T. Australia; J. M. de la Garza Cardenas, Superintendent and Chief Engineer, Petronac, Mexico, D. F.; Glen M. Ruby, Chief Geologist, Servicio Geologico, Y.P.F., Buenos Aires, Argentina, S.A.; D. E. Lounsbery, Chief Geologist, Phillips Petroleum Co., Bartlesville, Okla.; B. F. Hake, Division Geologist, Gulf Oil Corp., Indianapolis, Ind.; **J. E. Brantly, President, Drilling and Exploration Company, Inc., Los Angeles, Cal.; Harold W. Hoots, Chief Geologist, Richfield Oil Corp., Los Angeles, Cal.;** Frederick G. Clapp, Consulting Geologist, New York City, N. Y.; W. F. Brown, Consulting Geologist, Mt. Pleasant, Mich.; Basil Zavoico, Geologist, New York City, N. Y.; Henry A. Ley, President, American Association of Petroleum Geologists, San Antonio, Texas.

A. H. Bell, Head, Oil & Gas Division, Illinois Geological Survey, Urbana, Ill.; **Wm. D. Kleinpell, Consulting Geologist, Bakersfield, Cal.;** Theron Wasson, Chief Geologist, The Pure Oil Co., Chicago, Ill.; John Emery Adams, Standard Oil Company of Texas, Midland, Texas; Paul A. Weaver, Assistant to the Vice-President, Gulf Oil Corp., Houston, Texas; L. G. Huntley, Pittsburgh, Penn.; Paul H. Price, State Geologist, Morgantown, West Virginia: Frederic H. Lahee, Chief Geologist, Sun Oil Co., Dallas, Texas; J. Terry Duce, Manager and Director, Texas Petroleum Co., New York City, N. Y.; C. E. Dobbin, U. S. Geological Survey, Denver, Colo.; H. N. Toler, Chief Geologist, Southern Natural Gas Co., Jackson, Miss.; W. Armstrong Price, Consulting Geologist, Corpus Christi, Texas; Orval L. Brace, Consulting Geologist, Houston, Texas.

The following will be from Tulsa: W. G. Green, Seismograph Service Corp.; Carl White, Franks Manufacturing Co.; Wm. Broadhurst, Secretary-Treasurer, Helmerich & Payne; Frank R. Clark, Vice-President and Chief Geologist, Ohio Oil Co.; Luther H. White, Land and Geological Department, Deep Rock Oil Co.; John G. Bartram, Division Geologist, Stanolind Oil and Gas Co.; Roscoe E. Shutt, Manager, Exploration Department, Shell Petroleum Co.; Frederic A. Bush, Chief Geologist, Sinclair Prairie Oil Co.; W. B. Wilson, Chief Geologist, Gulf Oil Corp.; Glenn D. Hawkins, Consulting Geologist; A. I. Leversen, former president of the American Association of Petroleum Geologists and J. P. D. Hull, Business Manager, American Association of Petroleum Geologists.



Left to right: George R. Miller, W. G. King, Jr., W. I. Williams.

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MAPS

Large maps of Los Angeles Basin oil fields and map showing all California oil fields. Price $15.00 each on paper and $20 each on cloth. Individual state oil and gas maps of Mid-Continent and Rocky Mountain regions. Maps show geological cross sections at base. These maps indicate wells drilling, wells producing and abandoned, with depths.
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Los Angeles, Calif.
Phone: TUcker 7530

Oil Men's Calendar

C.N.G.A. Meeting First Thurs. Each Month.

April

11—Society of Economic Palentologists and Mineralologists, Annual Meeting, Stevens Hotel, Chicago, Ill.

18-19—National Petroleum Assn., 37th Semi-Annual Meeting, Cleveland Hotel, Cleveland, O.

24-26—American Institute of Mining & Metallurgical Engineers, Open Hearth Conference, Pittsburgh, Pa.

May

1-3—Petroleum Industry Electrical Assn., Dallas, Texas.

6-10—American Gas Assn., Natural Gas Section, Houston, Tex.

13-15—American Institute of Chemical Engineers, 32nd Semi-Annual Meeting, Statler Hotel, Buffalo, N. Y.

15-17—Natural Gasoline Association of America, 19th Annual Convention, Hotel Tulsa, Tulsa, Okla.

18-25—International Petroleum Exposition and Congress, Tulsa, Okla.

27-31—American Petroleum Institute, 10th Mid-Year Meeting, Blackstone & Texas Hotels, Fort Worth, Tex.

June

9-14—Society of Automotive Engineers, Summer Meeting, The Greenbriar, White Sulphur Springs, W. Va.

17-20—American Society of Mechanical Engineers, Milwaukee, Wisc.

24-28—American Society for Testing Materials, Chalfonte-Haddon Hall, Atlantic City, N. J.

California Crude Oil Production

Three Weeks Ended March 2, 1940

	March Daily Quota	Average Daily Production	Excess
San Joaquin Valley			
Belridge—North	11,930	11,432	*498
Belridge—South	2,022	1,945	*77
Buena Vista	16,539	16,118	*421
Canal	5,732	5,663	*69
Coalinga-E. (Eocene)	13,094	13,559	465
Coalinga—East-West	15,281	8,894	*6,387
Cole's Levee	4,345	4,178	*167
Edison	2,212	2,112	*100
Elk Hills	7,510	12,457	4,947
Fruitvale	5,969	5,665	*304
Greeley	3,656	3,014	*642
Kern Front	7,309	6,228	*1,081
Kern River	6,768	3,550	*3,218
Kettleman No. Dome	34,779	52,762	17,983
Lost Hills	3,939	4,129	190
McKittrick	3,655	3,440	*215
Midway	37,041	33,306	*3,735
Mount Poso	9,648	8,680	*968
Mountain View	8,677	9,040	363
Rio Bravo	7,826	7,409	*417
Round Mt. and Coffee Canyon	7,282	7,243	*39
Ten Section	8,657	8,446	*211
Wasco	1,279	1,537	258
Other Fields	3,560	3,043	*517
TOTAL	228,710	233,850	5,140
Coastal Counties			
Elwood	3,641	3,935	294
Rincon	2,501	3,731	1,230
Santa Maria	6,086	3,432	*2,654
Gato Ridge	2,322	259	*2,063
Santa Maria Valley	18,103	11,691	*6,412
Santa Paula-Newhall	5,862	6,252	390
Ventura Avenue	31,103	36,938	5,835
Other Fields	5,278	5,558	280
TOTAL	74,896	71,796	*3,100
Los Angeles Basin			
Alamitos-Seal Beach	7,174	7,379	205
Brea-Olinda	8,010	5,563	*2,447
Coyote—East	3,380	3,127	*253
Coyote—West	9,951	5,502	*4,449
Domingues	16,599	18,837	2,238
El Segundo	2,447	2,619	172
Huntington Beach—New and Old	22,923	27,686	4,763
Inglewood	12,614	12,119	*495
Long Beach	39,164	44,352	5,188
Montebello	5,924	5,099	*825
Montebello-West End	20,389	18,271	*2,118
Playa del Rey	3,926	4,417	491
Richfield	7,106	8,304	1,198
Rosecrans-Athens	7,881	9,357	1,476
Santa Fe Springs	24,162	35,884	11,722
Torrance	5,218	5,180	*38
Torrance "34" and "D & B"	6,482	7,469	987
Wilmington	79,391	81,984	2,593
Other Fields	3,940	4,231	291
TOTAL	286,681	307,380	20,699
STATE TOTAL —Shortage.	590,287	613,026	22,739